



BENCHMARKS

The Computing Center Newsletter
University of North Texas

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Computing and the Law

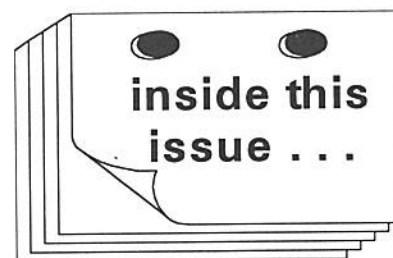
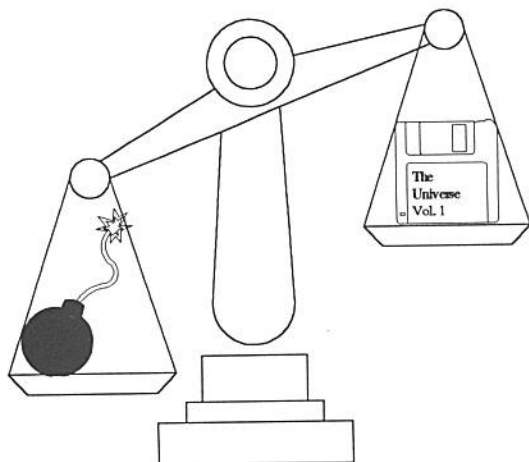
By Claudia Lynch, *Benchmarks* Editor (as04@unt.edu)

Computing for the masses is a relatively recent phenomenon. The original IBM PC was only introduced in 1981, which was the same year that BITNET became operational. ARPANET (parent of the Internet) started in 1969, but it wasn't used by the general public until after 1983, when it split into two networks, ARPANET and MILNET. It's not surprising, then, that the laws relating to the use of computers and computer networks are in what might be kindly called "the fledgling stage."

The purpose of this issue of *Benchmarks* is to "raise your consciousness" with regard to some of the legal ramifications of computer usage. This is a very wide-open topic, with more opinion than fact currently in existence in a lot of areas. The important thing, for now, is to be aware that there *are* legal issues involved with computer usage. In fact, the UNT Internal Auditor's office has recently announced that they will be randomly auditing departments to test compliance with University policy (consult the *University Policy Manual, Volume II Administrative and Fiscal*) and Federal Copyright law (see page 10 for more information). If you use common sense, read the fine print, and pay attention to copyright notices, however, you shouldn't have any legal problems in your day-to-day computing activities.

Federal and State Computer Crime Laws

The laws listed on the following page are currently being used to decide whether a computer crime has been committed either at the federal level or in the state of Texas. I retrieved the text of these laws via Gopher. Consult the articles on pages 17 and 18 for more information about Gopher.



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☆ UNT COMPUTING CENTER ORGANIZATION AND FACILITIES ☆

Computing Center Support Services are available in the Information Sciences Building (ISB), Room 119; phone: (817) 565-2324 (TDD 1-800-RELAY-TX). The Computing Center consists of the following areas:

☐ Academic Computing Services:

- Documentation Services
- ISB 110 General Access Lab (817) 565-3048
- Mainframe User Services
- Research and Statistical Support Services
- VAX/UNIX Systems (817) 565-4161

☐ Network & Microcomputer Services:

- Data Communications
- Microcomputer Application Support
- Network Systems Support

☐ Administrative Computing:

- Admissions Data Systems
- Database/Central Programming Support
- General Data Systems
- NT/TCOM Fiscal Data Systems
- NT/TCOM Payroll/Personnel Data Systems
- Student Records Data Systems
- Student Services Data Systems
- Voice Response Applications

☐ Mainframe Technical Services:

- IBM Operating Systems Software Support
- Computer Operations



CONNECTING TO UNT COMPUTERS



Phone numbers for accessing UNT computing systems:

300-2400 BAUD: (817) 565-3300
 300/1200 BAUD: (817) 565-3499
 300-9600 BAUD: (817) 565-3461 HST protocol ONLY
 300-2400 BAUD: D/FW METRO 792-4140

Area code 214 must dial 817 before the METRO#. Note: Dialing 1 before the area code will result in a long-distance charge.

Set Data Bits to 7, Parity to S, and Stop Bits to 1. When dialing in, the auto-baud feature requires you to hit the <RETURN> key repeatedly after the connection is made so that the receiving modem can determine the baud rate. When you see the prompt (# for local numbers, UNT Modems) for the metro lines) you can enter one of the following commands to connect with the system of your choice.

SYSTEM	SYTEK/DENTON LINES (#)	METRO LINES (UNTMODEMS>)	INTERNET (CUTCP, NCSA)
<i>ACS Host Systems</i>			
Academic Mainframe (MUSIC, CMS, Academic COM-LETE)	CALL 3270	CONNECT VM3270	tn3270 vm.acs.unt.edu —OR— telnet vm3270.acs.unt.edu
VAX (VMS)	CALL DEC	CONNECT DEC	telnet vaxb.acs.unt.edu
Solbourne (UNIX)	CALL 900	CONNECT SOL	telnet sol.acs.unt.edu
<i>Departmental Systems</i>			
Computer Sciences Sequent (Ponder)	CALL 780	CONNECT PONDER	telnet ponder.csci.unt.edu
UNT Libraries' on-line card catalog	CALL 3000	CONNECT LIBRARY	telnet library.unt.edu

To exit from the local phone lines, press <ESCAPE><RETURN>, and type DONE (at the # prompt), then press <RETURN><RETURN>. To exit from the metro lines, press <CTRL-SHIFT-6>, then type DISCONNECT (at the UNTMODEMS> prompt), then press <RETURN>. Exiting from telnet and TN3270 is dependent upon the package. CUTCP uses <ALT-X>.

HOURS FOR UNIVERSITY OF NORTH TEXAS COMPUTER ACCESS AREAS : Summer 1993

Day of Week	Willis	BA	ISB 110	Chilton 255	Chilton 116	GAB	Matthews	Music	Terrill, Wooten	ISB 205C	Lab Locations
Monday - Thursday	Open 24 hrs.	8 am-11:45 pm	7:30 am-10 pm	8 am-10 pm	10 am-10 pm	8 am-Midnight	7 am-10 pm	8 am-10 pm	8 am-6 pm	Noon-10 pm	☉ BA: 330,332 ☉ Chilton: 255, 116 [Adaptive Lab] ☉ GAB: 330,550 ☉ ISB: 110, 205C — graduate students only ☉ Matthews: 309 ☉ Music: 1007 ☉ Terrill: 247 ☉ Willis: 134 ☉ Wooten: 120
Friday	Open 24 hrs.	8 am-8 pm	7:30 am-6 pm	8 am-5 pm	1-5 pm	8 am-3 pm	7 am-5 pm	8 am-3 pm	8 am-3 pm	1-5 pm	
Saturday	Open 24 hrs.	8 am-8 pm	9 am-6 pm	10 am-5 pm	10 am-5 pm	Closed	10 am-5 pm	Closed	Closed	10 am-5 pm	
Sunday	Open 24 hrs.	Noon-11:45 pm	1-10 pm	Closed	1-10 pm	2 pm-Midnight	1-10 pm	1-8 pm	Closed	1-10 pm	

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Federal Law

UNITED STATES CODE SERVICE

THIS SECTION IS CURRENT THROUGH 102 P.L. 82, APPROVED 08/06/91 ***

TITLE 18 - CRIMES AND CRIMINAL PROCEDURE

PART I. CRIMES

CHAPTER 47. FRAUD AND FALSE STATEMENTS

18 USCS @ 1030 (1991)

@1030. Fraud related activity in connection with computers

(a) Whoever-

(1) knowingly accesses a computer without authorization or exceeds authorized access, and by means of such conduct obtains information that has been determined by the United States Government pursuant to an Executive order or statute to require protection against unauthorized disclosure for reasons of national defense or foreign relations, or any restricted data, as defined in paragraph y[(y)] of section 11 of the Atomic Energy Act of 1954 [42 USCS @ 2014(y)], with the intent or reason to believe that such information so obtained is to be used to the injury of the United States, or to the advantage of any foreign nation;

(2) intentionally accesses a computer without authorization or exceeds authorized access, and thereby obtains information contained in a financial record of a financial institution, or of a card issuer as defined in section 1602(n) of title 15, or contained in a file of a consumer reporting agency on a consumer, as such terms are defined in the Fair Credit Reporting Act (15 U.S.C. 1681 et seq);

(3) intentionally, without authorization to access any computer of a department or agency of the United States, accesses such a computer of that department or agency that is exclusively for the use of the Government of the United States or, in the case of a computer not exclusively for such use, is used by or for the Government of the United States and such conduct affects the use of the Government's operation of such computer;

(4) knowingly and with intent to defraud, accesses a Federal interest computer without authorization, or exceeds authorized access, and by means of such conduct furthers the intended fraud and obtains anything of value, unless the object of the fraud and the thing obtained consists only of the use of the computer;

(5) intentionally accesses a Federal interest computer without authorization, and by means of one or more instances of such conduct alters, damages, or destroys information in any such Federal interest computer, or prevents authorized use of any such computer or information, and thereby-

(A) causes loss to one or more others of a value aggregating \$ 1,000 or more during any one year period; or

(B) modifies or impairs, or potentially modifies or impairs, the medical examination, medical diagnosis, medical treatment, or medical care of one or more individuals; or

(6) knowingly and with intent to defraud traffics (as defined in section 1029) in any password or similar information through which a computer may be accessed without authorization, if-

(A) such trafficking affects interstate or foreign commerce; or

(B) such computer is used by or for the Government of the United States; shall be punished as provided in subsection (c) of this section.

(b) Whoever attempts to commit an offense under subsection (a) of this section shall be punished as provided in subsection (c) of this section.

(c) The punishment for an offense under subsection (a) or (b) of this section is-

(1)(A) a fine under this title or imprisonment for not more than ten years, or both, in the case of an offense under subsection (a)(1) of this section which does not occur after a conviction for another offense under such subsection, or an attempt to commit an offense punishable under this subparagraph; and

(B) a fine under this title or imprisonment for not more than twenty years, or both, in the case of an offense under subsection (a)(1) of this section which occurs after a conviction for another offense under such subsection; or an attempt to commit an offense punishable under this subparagraph; and

(2)(A) a fine under this title or imprisonment for not more than one year, or both, in the case of an offense under subsection (a)(2), (a)(3) or (a)(6) of this section which does not occur after a conviction for another offense under such subsection, or an attempt to commit an offense punishable under this subparagraph; and

(B) a fine under this title or imprisonment for not more than ten years, or both, in the case of an offense under subsection (a)(2), (a)(3) or (a)(6) of this section which occurs after a conviction for another offense under such subsection, or an attempt to commit an offense punishable under this subparagraph; and

(3)(A) a fine under this title or imprisonment for not more than five years, or both, in the case of an offense under subsection (a)(4) or (a)(5) of this section which does not occur after a conviction for another offense under such subsection, or an attempt to commit an offense punishable under this subparagraph; and

(B) a fine under this title or imprisonment for not more than ten years, or both, in the case of an offense under subsection (a)(4) or (a)(5) of this section which occurs after a conviction for another offense under such subsection, or an attempt to commit an offense punishable under this subparagraph.

(d) The United States Secret Service shall, in addition to any other agency having such authority, have the authority to investigate offenses under this section. Such authority of the United States Secret Service shall be exercised in accordance with an agreement which shall be entered into by the Secretary of the Treasury and the Attorney General.

(e) As used in this section-

(1) the term "computer" means an electronic, magnetic, optical,

electrochemical, or other high speed data processing device performing logical, arithmetic, or storage functions, and includes any data storage facility or communications facility directly related to or operating in conjunction with such device, but such term does not include an automated typewriter or typesetter, a portable hand held calculator, or other similar device;

(2) the term "Federal interest computer" means a computer -

(A) exclusively for the use of a financial institution or the United States Government, or, in the case of a computer not exclusively for such use, used by or for a financial institution or the United States Government and the conduct constituting the offense affects the use of the financial institution's operation or the Government's operation of such computer; or

(B) which is one of two or more computers used in committing the offense, not all of which are located in the same State;

(3) the term "State" includes the District of Columbia, the Commonwealth of Puerto Rico, and any other commonwealth, possession or territory of the United States;

(4) the term "financial institution" means-

(A) an institution, with deposits insured by the Federal Deposit Insurance Corporation;

(B) the Federal Reserve or a member of the Federal Reserve including any Federal Reserve Bank;

(C) a credit union with accounts insured by the National Credit Union Administration;

(D) a member of the Federal home loan bank system and any home loan bank;

(E) any institution of the Farm Credit System under the Farm Credit Act of 1971;

(F) a broker-dealer registered with the Securities and Exchange Commission pursuant to section 15 of the Securities Exchange Act of 1934;

(G) the Securities Investor Protection Corporation;

(H) a branch or agency of a foreign bank (as such terms are defined in paragraphs (1) and (3) of section 1(b) of the International Banking Act of 1978 [12 USCS @ 3101(1), (3)]); and

(I) an organization operating under section 25 or section 25(a) of the Federal Reserve Act.

(5) the term "financial record" means information derived from any record held by a financial institution pertaining to a customer's relationship with the financial institution;

(6) the term "exceeds authorized access" means to access a computer with authorization and to use such access to obtain or alter information in the computer that the accesser is not entitled so to obtain or alter; and

(7) the term "department of the United States" means the legislative or judicial branch of the Government or one of the executive department enumerated in section 101 of title 5.

(f) This section does not prohibit any lawfully authorized investigative, protective, or intelligence activity of a law enforcement agency of the United States, a State, or a political subdivision of a State, or of an intelligence agency of the United States.

HISTORY: (Added Oct. 12, 1984, P.L. 98-473, Title II, Ch XXI, @ 2102(a), 98 Stat. 2190; Oct. 16, 1986, P.L. 99-474, @ 2, 100 Stat. 1213; Nov. 18, 1988, P.L. 100-690, Title VII, Subtitle B, @ 7065, 102 Stat. 4404; As amended Aug. 9, 1989, P.L. 101-73, Title IX, Subtitle F, @ 962(a)(5), 103 Stat. 502; Nov. 29, 1990, P.L. 101-647, Title XII, @ 1205(e), Title XXV, Subtitle I, @ 2597(j), Title XXXV, @ 3533, 104 Stat. 4831, 4910, 4925.)

State Law

BE IT ENACTED BY
THE LEGISLATURE OF THE STATE
OF TEXAS SECTION 1, Title 7,

Penal Code, is amended by adding
Chapter 33 to read as follows: CHAPTER
33. COMPUTER CRIMES Section
33.01. DEFINITIONS

In this chapter:

(1) 'Communications common carrier' means a person who owns or operates a telephone system in this state that includes equipment or facilities for the conveyance, transmission, or reception of communications and who receives

compensation from persons who use that system.

(2) 'Computer' means an electronic device that performs logical, arithmetic, or memory functions by the manipulations of electronic or magnetic impulses and includes all input, output, processing, storage, or communication facilities that are connected or related to the device. 'Computer' includes a network of two or more computers that are interconnected to function or communicate together.

(3) 'Computer program' means an ordered set of data representing coded instructions or statements that when executed by a computer cause the computer to process data or perform specific functions.

(4) 'Computer security system' means the design, procedures, or other measures that the person responsible for the operation and use of a computer employs to restrict the use of the computer to particular persons or uses or that the owner or licensee of data stored or maintained by a computer in which the owner or licensee is entitled to store or maintain the data employs to restrict access to the data.

(5) 'Data' means a representation of information, knowledge, facts, concepts, or instructions that is being prepared or has been prepared in a formalized manner and is intended to be stored or processed, is being stored or processed, or has been stored or processed, in a computer. Data may be embodied in any form, including but not limited to computer printouts, magnetic storage media, and punchcards, or may be stored internally in the memory of the computer.

(6) 'Electric utility' has the meaning assigned by Subsection (c), Section 3, Public Utility Regulatory Act (article 1446c, Vernon's Texas Civil Statutes).

Section 33.02.

BREACH OF COMPUTER SECURITY

(a) A person commits an offense if the person:

(1) uses a computer without the effective consent of the owner of the computer or a person authorized to license access to the computer and the actor knows that there exists a

computer security system intended to prevent him from making that use of the computer; or

(2) gains access to data stored or maintained by a computer without the effective consent of the owner or licensee of the data and the actor knows that there exists a computer security system intended to prevent him from gaining access to that data.

(b) A person commits an offense if the person intentionally or knowingly gives a password, identifying code, personal identification number, or other confidential information about a computer security system to another person without the effective consent of the person employing the computer security system to restrict the use of a computer or to restrict access to data stored or maintained by a computer.

(c) An offense under this section is a Class A misdemeanor.

Section 33.03. HARMFUL ACCESS

(a) A person commits an offense if the person intentionally or knowingly:

(1) causes a computer to malfunction or interrupts the operation of a computer without the effective consent of the owner of the computer or a person authorized to license access to the computer; or

(2) alters, damages, or destroys data or a computer program stored, maintained, or produced by a computer, without the effective consent of the owner or licensee of the data or computer program.

(b) An offense under this section is:

(1) a Class B misdemeanor if the conduct did not cause any loss or damage or if the value of the loss or damage caused by the conduct is less than \$200;

(2) a Class A misdemeanor if the value of the loss or damage caused by the conduct is \$200 or more but less than \$2,500; or

(3) a felony of the third degree if the value of the loss or damage caused by the conduct is \$2,500 or more.

Section 33.04. DEFENSES.

It is an affirmative defense to prosecution under Sections 33.02 and 33.03 of this code that the actor was an officer, employee, or agent of a communications common carrier or electric utility and committed the proscribed act or acts in the course of employment while engaged in an

activity that is a necessary incident to the rendition of service or to the protection of the rights or property of the communications common carrier or electric utility.

Section 33.05 ASSISTANCE BY ATTORNEY GENERAL.

The attorney general, if requested to do so by a prosecuting attorney, may assist the prosecuting attorney in the investigation or prosecution of an offense under this chapter or of any other offense involving the use of a computer.

SECTION 2. This Act takes effect September 1, 1985.

SECTION 3. The importance of this legislation and the crowded condition of the calendars in both houses create an emergency and an imperative public necessity that the constitutional rule requiring bills to be read on three separate days in each house be suspended, and this rule is hereby suspended.

Keeping Up With The Legal Issues

Legal Net News

If you are interested in keeping up with the legal issues of computing and networking, you should probably check out *Legal Net News*. It is a monthly newsletter that contains information collected from various private and governmental sources about the ongoing legal issues that come up from time to time in the computing world. To get *Legal Net News*:

- ① FTP to 161.109.128.2 (tstc.edu).
- ② Log in as the ID **anonymous** with *your* ID as the password.
- ③ Change to the *Legal Net News* directory by typing **cd/pub/legal-net-news**
- ④ Type **dir** to see the list of files available.
- ⑤ Use the **get** command to retrieve the files you want

⑥ Log out by typing goodbye

Legal Net News is also available on the following public BBSs

- The SENTRY Net BBS, Centreville, Virginia, +1-803-815-3244 (to 9600 bps).
- Arlington Software Exchange, Arlington, Virginia, +1-703-532-7143 (to 9600 bps).

Electronic Frontier Foundation (EFF)

According to their publication "General Information About the Electronic Frontier Foundation," EFF was founded to ensure that the principles embodied in the Constitution and the Bill of Rights are protected as new communications technologies emerge. (See the articles on page 6 for additional information on this.)

EFF maintains several communications forums on the Internet. Their Internet node, eff.org, houses ftp and Gopher sites. They also have the USENET newsgroups comp.org.effnews and comp.org.eff.talk. If you wish, you can subscribe to these newsgroups by sending a message to eff-request@eff.org for the comp.org.eff.news list or to eff-talk-request@eff.org for the comp.org.eff.talk mailing list (very high volume).

EFF publishes a biweekly electronic newsletter, *EFFector Online*, that you can receive by sending a message to eff@eff.org. General information can be obtained in this manner also.

Finally, a document library containing all EFF news releases and other publications of interest, including John Perry Barlow's history of EFF, "Crime and Puzzlement," is available via anonymous FTP from ftp.eff.org. Send a note to ftphelp@eff.org if you have questions.

Computer Professionals for Social Responsibility (CPSR)

CPSR, profiled on page 6 of the May 1993 *Benchmarks*, also keeps abreast with the ever changing world of computer law. For more information, contact the organization at cpsr@csli.stanford.edu ■

EFFacts

Adapted for publication in Benchmarks from the EFF (eff@eff.org) publication, "General Information About the Electronic Freedom Foundation."

The Electronic Frontier Foundation (EFF) was founded in July of 1990. From the beginning, EFF has worked to shape our nation's communications infrastructure and the policies that govern it in order to maintain and enhance First Amendment, privacy and other democratic values. EFF's overriding public goal is the creation of Electronic Democracy, thus their work focuses on the establishment of:

- new laws that protect citizens' basic Constitutional rights as they use new communications technologies,
- a policy of common carriage requirements for all network providers so that all speech, no matter how controversial, will be carried without discrimination,
- a National Public Network where voice, data and video services are accessible to all citizens on an equitable and affordable basis, and

Please see FACTS on page 9.

The Electronic Frontier and The Bill of Rights

A publication of the Electronic Frontier Foundation (EFF), (eff@eff.org)

Advances in computer technology have brought us to a new frontier in communications, where the law is largely unsettled and woefully inadequate to deal with the problems and challenges posed by electronic technology. How the law develops in this area will have a direct impact on the electronic communications experiments and innovations being devised day in and day out by millions of citizens on both a large and small scale from coast to coast. Reasonable balances have to be struck among:

- ☐ traditional civil liberties
- ☐ protection of intellectual property
- ☐ freedom to experiment and innovate
- ☐ protection of the security and integrity of computer systems from improper governmental and private interference

Striking these balances properly will not be easy, but if they are struck too far in one direction or the other, important social and legal values surely will be sacrificed.

Helping to see to it that this important and difficult task is done properly is a major goal of the Electronic Frontier Foundation. It is critical to assure that these lines are drawn in accordance with the fundamental constitutional rights that have protected individuals from government excesses since our nation was founded — freedom of speech, press, and association, the right to privacy and protection from unwarranted governmental intrusion, as well as the right to procedural fairness and due process of law.

The First Amendment

The First Amendment to the United States Constitution prohibits the government from "abridging the freedom of speech, or of the press," and guarantees freedom of association as well. It is widely considered to be the single most important of the guarantees contained in the Bill of Rights, since free speech and association are fundamental in securing all other rights.

The First Amendment throughout history has been challenged by every important technological development. It has enjoyed only a mixed record of success. Traditional forms of speech — the print media and public speaking — have enjoyed a long and rich history of freedom from governmental interference. The United States Supreme Court has not afforded the same degree of freedom to electronic broadcasting, however.

Radio and television communications, for example, have been subjected to regulation and censorship by the Federal Communications Commission (FCC), and by the Congress. The Supreme Court initially justified regulation of the broadcast media on technological grounds — since there were assumed to be a finite number of radio and television frequencies, the Court believed that regulation was necessary to prevent interference among frequencies and to make sure that scarce resources were allocated fairly. The multiplicity of cable TV networks has demonstrated the falsity

of this "scarce resource" rationale, but the Court has expressed a reluctance to abandon its outmoded approach without some signal from Congress or the FCC.

Congress has not seemed overly eager to relinquish even counterproductive control over the airwaves. Witness, for example, legislation and rule-making in recent years that have kept even important literature, such as the poetry of Allen Ginsberg, from being broadcast on radio because of language deemed "offensive" to regulators.

Diversity and experimentation have been sorely hampered by these rules. The development of computer technology provides the perfect opportunity for lawmakers and courts to abandon much of the distinction between the print and electronic media and to extend First Amendment protections to all communications regardless of the medium. Just as the multiplicity of cable lines has rendered obsolete the argument that television has to be regulated because of a scarcity of airwave frequencies, so has the ready availability of virtually unlimited computer communication modalities made obsolete a similar argument for harsh controls in this area. With the computer taking over the role previously played by the typewriter and the printing press, it would be a constitutional disaster of major proportions if the treatment of computers were to follow the history of regulation of radio and television, rather than the history of freedom of the press.

To the extent that regulation is seen as necessary and proper, it should foster the goal of allowing maximum freedom, innovation and experimentation in an atmosphere where no one's efforts are sabotaged by either government or private parties. Regulation should be limited by the adage that quite aptly describes the line that separates reasonable from unreasonable regulation in the First Amendment area: "Your liberty ends at the tip of my nose."

As usual, the law lags well behind the development of technology. It is important to educate lawmakers and judges about new technologies, lest fear and ignorance of the new and unfamiliar, create barriers to free communication, expression, experimentation, innovation, and other such values that help keep a nation both free and vigorous.

The Fourth Amendment

The Fourth Amendment guarantees that "the right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized."

In short, the scope of the search has to be as narrow as possible, and there has to be good reason to believe that the search will turn up evidence of illegal activity.

The meaning of the Fourth Amendment's guarantee has evolved over time in response to changing technologies. For example, while the Fourth Amendment was first applied to prevent the government from trespassing onto private property and seizing tangible objects, the physical trespass rationale was made obsolete by the development of electronic eavesdropping devices which permitted the government to "seize" an individual's words without ever treading onto that person's private property. To put the matter more concretely, while the drafters of the First Amendment surely knew nothing about electronic databases, surely they would have considered one's database to be as sacrosanct as, for example, the contents of one's private desk or filing cabinet.

The Supreme Court responded decades ago to these types of technological challenges by interpreting the Fourth Amendment more broadly to

prevent governmental violation of an individual's reasonable expectation of privacy, a concept that transcended the narrow definition of one's private physical space. It is now well established that an individual has a reasonable expectation of privacy, not only in his or her home and business, but also in private communications. Thus, for example:

- Government wiretapping and electronic eavesdropping are now limited by state and federal statutes enacted to effectuate and even to expand upon Fourth Amendment protections.
- More recently, the Fourth Amendment has been used, albeit with limited success, to protect individuals from undergoing certain random mandatory drug testing imposed by governmental authorities.

Advancements in technology have also worked in the opposite direction, to diminish expectations of privacy that society once considered reasonable, and thus have helped limit the scope of Fourth Amendment protections. Thus, while one might once have reasonably expected privacy in a fenced-in field, the Supreme Court has recently told us that such an expectation is not reasonable in an age of surveillance facilitated by airplanes and zoom lenses.

Applicability of the Fourth Amendment to Computer Media

Just as the Fourth Amendment has evolved in response to changing technologies, so it must now be interpreted to protect the reasonable expectation of privacy of computer users in, for example, their electronic mail or electronically stored secrets. The extent to which government intrusion into these private areas should be allowed, ought to be debated openly, fully, and intelligently, as the Congress seeks to legislate in the area, as courts decide cases,

and as administrative, regulatory, and prosecutorial agencies seek to establish their turf.

One point that must be made, but which is commonly misunderstood, is that the Bill of Rights seeks to protect citizens from privacy invasions committed by the government, but, with very few narrow exceptions, these protections do not serve to deter private citizens from doing what the government is prohibited from doing. In short, while the Fourth Amendment limits the government's ability to invade and spy upon private databanks, it does not protect against similar invasions by private parties. Protection of citizens from the depredations of other citizens requires the passage of privacy legislation.

The Fifth Amendment

The Fifth Amendment assures citizens that they will not "be deprived of life, liberty, or property, without due process of law" and that private property shall not "be taken for public use without just compensation." This Amendment thus protects both the sanctity of private property and the right of citizens to be proceeded against by fair means before they may be punished for alleged infractions of the law.

One aspect of due process of law is that citizens not be prosecuted for alleged violations of laws that are so vague that persons of reasonable intelligence cannot be expected to assume that some prosecutor will charge that his or her conduct is criminal. A hypothetical law, for example, that makes it a crime to do "that which should not be done," would obviously not pass constitutional muster under the Fifth Amendment. Yet the application of some existing laws to new situations that arise in the electronic age is only slightly less problematic than the hypothetical, and the Electronic Frontier Foundation plans to monitor the process by which old laws are modified, and new laws are crafted, to meet modern situations.

Pair Indicted for Transmission of Trade Secrets Via E-Mail

This information was taken from EDUPAGE, a summary of some of the week's news items on information technology, provided as a service by EDUCOM. The following information originally appeared in BNA's Employee Relations Weekly, 4/5/93, p. 381.

According to a blurb in *EDUPAGE* (4/8/93), two computer company officials were indicted by a grand jury on March 4, 1993 for allegedly stealing trade secrets from a competitor. "E-mail messages on Eugene Wang's computer at Borland International allegedly include secret Borland product and marketing plans passed on to Wang's current boss at Symantec. The messages were sent just hours after Wang had announced his departure from Borland for the job at Symantec. Prior to checking Wang's messages, company officials talked to counsel about the employee privacy issues involved and were assured the E-mail system was a vehicle for business communication, and that employees should have no reasonable expectation of privacy." ■

One area in which old laws and new technologies have already clashed and are bound to continue to clash, is the application of federal criminal laws against the interstate transportation of stolen property. The placement on an electronic bulletin board of arguably proprietary computer files, and the "republication" of such material by those with access to the bulletin board, might well expose the sponsor of the bulletin board as well as all participants to federal felony charges, if the U.S. Department of Justice can convince the courts to give these federal laws a broad enough reading. Similarly, federal laws protecting against wiretapping and electronic eavesdropping clearly have to be updated to take into account electronic bulletin board technology, lest those who utilize such means of communication should be assured of reasonable privacy from unwanted government surveillance.

Summary

The problem of melding old but still valid concepts of constitutional rights, with new and rapidly evolving technologies, is perhaps best summed up by the following observation. Twenty-five years ago there was not much question but that the First Amendment

prohibited the government from seizing a newspaper's printing press, or a writer's typewriter, in order to prevent the publication of protected speech. Similarly, the government would not have been allowed to search through, and seize, one's private papers stored in a filing cabinet, without first convincing a judge that probable cause existed to believe that evidence of crime would be found.

Today, a single computer is in reality a printing press, typewriter, and filing cabinet (and more) all wrapped up in one. How the use and output of this device is treated in a nation governed by a Constitution that protects liberty as well as private property, is a major challenge we face. How well we allow this marvelous invention to continue to be developed by creative minds, while we seek to prohibit or discourage truly abusive practices, will depend upon the degree of wisdom that guides our courts, our legislatures, and governmental agencies entrusted with authority in this area of our national life. ■

FACTS continued from page 6.

- a diversity of communities that enable all citizens to have a voice in the information age.

Legal Services

EFF sponsors legal cases where users' online civil liberties have been violated. The Steve Jackson Games case, decided in March of 1993, established privacy protections for electronic mail and publications that are kept online.¹ EFF continues to monitor the online community for legal actions that merit EFF support.

EFF provides a free telephone hotline for members of the online community who have questions regarding their legal rights.

Members of EFF's staff and board speak to law enforcement organizations, state attorney bar associations and university classes on the work that EFF does and how these groups can get involved.

Civil Liberties

EFF has been working to make sure that common carrier principles are upheld in the information age. Common carrier principles require that network providers carry all speech, regardless of its controversial content. Common carriers must also provide all speakers

and information providers with equal, nondiscriminatory access to the network.

Last year, the FBI introduced legislation to require communications technologies to be certified as open to lawful government surveillance before those technologies can be deployed. EFF organized a broad coalition of 39 computer, telephone and public interest groups to oppose this measure.

EFF is working to convince Congress that all measures that support broader public access to information should be enacted into law. For example, the law that establishes citizen access to information, the Freedom of Information Act (FOIA), does not require government agencies to turn over the electronic version of information, which is often the most useful version. EFF supports an Electronic Freedom of Information Act and other legislation to make information more accessible to citizens.

EFF supports both legal and technical means to enhance privacy in communications. EFF, therefore, advocates all measures that ensure the public's right to use the most effective encryption technologies available.²

² For a look at the "latest" in magazine design and an overview of the cryptography controversy quietly raging in Congress now, see "Crypto Rebels" in the May/June issue of *Wired* (Vol. 1, No. 2, pg. 54).

National Network

EFF has been working with policymakers to establish a national network, or network of networks, capable of transporting video images and data, as well as voice. Our "Open Platform Proposal" advocates a network that is accessible to all citizens at an affordable price. For the near-term, EFF supports the implementation of ISDN (Integrated Services Digital Network) technology. ISDN makes it possible for the current telephone network to be used to send voice, video and data at a low cost to consumers.

EFF has written a white paper that describes ISDN applications that are currently available for use at home, school, the workplace, and beyond. EFF has been working with policymakers on legislation that encourages individuals and organizations to create tools that make the Internet and the National Research and Education Network (NREN) easier to access and use.

To Contact EFF

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Internet: eff@eff.org ■

¹For background on this case, see "The Secret Service, UUCP, and The Legion of Doom" in the June 1990 issue of *Benchmarks*. According to an Associated Press story in the Fort Worth Star-Telegram ("Publisher hails ruling on computer records," March 17, 1993), "U.S. District Judge Sam Sparks ruled that Steve Jackson Games Inc. was protected as a publisher, and he said the government must show there is a probable cause of a crime before seizing computer information." Furthermore, he ruled that computer bulletin boards and electronic mail are safeguarded by federal wiretap laws.

And You Thought the Laws Were Tough Here!

By Claudia Lynch, *Benchmarks* Editor (as04@unt.edu)

According to an Associated Press story (April 28, 1993), a man accused of invading a computer and embezzling \$192,000 was *executed* in China. The man was accused of forging deposit slips from Aug. 1 to Nov. 18, 1991 and then trying to wire part of the money to another province in China. This was reportedly the first case of bank embezzlement via computer in China. ■

Using Software

A Guide to the Ethical and Legal Use of Software for Members of the Academic Community

This article is adapted from a brochure by the same name produced by EDUCOM, a nonprofit consortium of over 450 colleges and universities committed to the use and management of information in higher education (UNT is a member), and ADAPSO, the computer software and services industry association. — Ed.

Software enables us to accomplish many different tasks with computers. Unfortunately, in order to get their work done quickly and conveniently, some people justify making and using unauthorized copies of software. They may not understand the implications of their actions or the restrictions of the U.S. copyright law.

Here are some relevant facts:

- 1 Unauthorized copying of software is illegal. Copyright law protects software authors and publishers, just as patent law protects inventors.
- 2 Unauthorized copying of software by individuals can harm the entire academic community. If unauthorized copying proliferates on a campus, the institution may incur a legal liability. Also, the institution may find it more difficult to negotiate agreements that would make software more widely and less expensively available to members of the academic community.
- 3 Unauthorized copying of software can deprive developers of a fair return for their work, increase prices, reduce the level of future support and enhancement, and inhibit the development of new software products.
- 4 Respect for the intellectual work and property of others has traditionally been essential to the mission of colleges and universities. As members of the academic community, we value the free exchange of ideas. Just as we do not tolerate plagiarism, we do not condone the unauthorized copying of software, including programs, applications, databases and code.

Therefore, we offer the following statement [in the box below] of principle about intellectual property and the legal and ethical use of software. This "code" — intended for adaptation and use by individual colleges and universities — was developed by the EDUCOM Software Initiative. ■

Software and Intellectual Rights

Respect for intellectual labor and creativity is vital to academic discourse and enterprise. This principle applies to works of all authors and publishers in all media. It encompasses respect for the right to acknowledgment, right to privacy, and right to determine the form, manner, and terms of publication and distribution.

Because electronic information is volatile and easily reproduced, respect for the work and personal expression of others is especially critical in computer environments. Violations of authorial integrity, including plagiarism, invasion of privacy, unauthorized access, and trade secret and copyright violations, may be grounds for sanctions against members of the academic community. ■

Software Usage Questions and Answers

This article is adapted from the same EDUCOM/ADAPSO brochure as the adjacent article. — Ed.

1 What do I need to know about software and the U.S. Copyright Act?

Unless it has been placed in the public domain, software is protected by copyright law. The owner of a copyright holds exclusive right to the reproduction and distribution of his or her work. Therefore, it is illegal to duplicate or distribute software or its documentation without the permission of the copyright owner. If you have purchased your copy, however, you may make a backup for your own use in case the original is destroyed or fails to work.

2 Can I loan software I have purchased myself?

If your software came with a clearly visible license agreement, or if you signed a registration card, **read the license carefully** before you use the software. Some licenses may restrict use to a specific computer. Copyright law does not permit you to run your software on two or more computers *simultaneously* unless the license agreement allows it. It may, however, be legal to loan your software to a friend temporarily as long as you do not keep a copy.

3 If software is not copy-protected, do I have the right to copy it?

Lack of copy-protection does **not** constitute permission to copy software in order to share or sell it. "Non-copy-protected" software enables you to protect your investment by making a backup copy. If offering non-copy-protected software to you, the developer or publisher has demonstrated significant trust in your integrity.

- ④ *May I copy software that is available through facilities on my campus, so that I can use it more conveniently in my own room?*

Software acquired by colleges and universities is usually licensed. The licenses restrict how and where the software may be legally used by members of the community. This applies to software installed on hard disks in microcomputer clusters, software distributed on disks by a campus lending library, and software available on a campus mainframe or network. Some institutional licenses permit copying for certain purposes. Consult Academic Computing (565-2324, ISB 119) or your departmental computer lab if you have questions about the use of a particular software product.

- ⑤ *Isn't it legally "fair use" to copy software if the purpose in sharing it is purely educational?*

No. It is illegal for a faculty member or student to copy software for distribution among the members of a class, without permission of the author or publisher.

A Final Note

Restrictions on the use of software are far from uniform. You should check carefully each piece of software and the accompanying documentation yourself. In general, you **do not** have the right to:

- receive and use unauthorized copies of software, or
- make unauthorized copies of software for others.

EDUCOM and ADAPSO can be contacted by writing to:

EDUCOM
Software Initiative
P.O. Box 364
Princeton, NJ 08540

ADAPSO
1300 North 17th Street
Suite 300
Arlington, VA 22209 ■

Copyright: Some Questions, Some Answers

By Cynthia Koepp, *Benchmarks* Associate Editor (koepp@cc1.unt.edu)

I want to point out that while laws have, in some ways, made copyright more accessible than ever, copyright laws remain a complex legal structure. My intention in this article is to accurately answer general questions that I had about copyright in the electronic age. Copyright Office phone numbers, as well as the list of my sources, are listed at the end of this article.

Q: In the United States, did the provisions for copyright first arise during the Industrial Revolution, when mass production became commonplace?

A: No. Copyright is mentioned in our Constitution, Article I, Section 8, whereby Congress was given power "to promote the Progress of Science and useful Arts, by securing for limited times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." This pronouncement also set the stage for patent and trademark protection—these two areas of intellectual property operate under the auspices of the Patent and Trademark Office, an agency of the U.S. Department of Commerce. The Copyright Office is a part of the Library of Congress.

Thus, government legislation and agency protection "turns intellectual products into property—the expressions of ideas are made property by copyright law, and certain ideas themselves are made property by patent law" (Fisher 14). Computer software is a hybrid, as it is a combination of both an idea and an expression. Fisher uses the equation $2 + 2 = 4$ to explain the difference between an expression and an idea within computer software. The expression is the given equation; the idea is a mathematical algorithm for addition. Similarly, computer software is composed of more complex algorithms (16). When judging copyright infringement (computer software was initially covered by copyright law), our legal system used to look more leniently on the use of others' expressions, if that were the only reasonable way to imitate the idea. This scenario has shifted considerably—and now companies are attempting to cover all their bases by trying to obtain copyright protection (for their special "look and feel" to an idea), as well as patent protection (for an idea as their proprietary invention) (Fisher 16).

The Office of Technology Assessment, which advises Congress on copyright issues, recommended that copyright begin protecting "art, fact [meaning nonfiction] and function" (Hilts 37). Following these guidelines, "software or any process that controls a machine or another process, would have the unique expressions of its functions protected" (Hilts 37). The OTA feels that this might alleviate a scenario whereby copyright law is either considered inapplicable and thereby protects no part of the software, or it is deemed applicable and thus protects the whole item, both idea and expression, for a lifetime. Currently, patent protection, which lasts for 17 years, does no better than protect certain aspects of the software process (Hilts 37).

Q: Is it true that copyright laws have not changed much since they first came into being May 31, 1790, because authors, publishers and society were so much in agreement?

A: Well you could probably guess that they have changed, but not as rapidly as you might think. The Copyright Act of 1976 was a major update; the update

prior to that was the 1909 Act. The sources I consulted discussed copyright in terms of the 1976 Act (which went into effect January 1, 1978), and subsequent additions to the Act.

Under the 1976 Act, one significant legal change was for all copyright disputes to fall under federal jurisdiction (Sitarz 26-27). Except for cases where copyright infringement is done on a massive scale and for purposes of commercial gain, copyright violation is legally considered a tort and not a crime. As such, most copyright lawsuits are handled by civil law and not criminal law. Typical legal actions include suing for damages, or halting any additional use of the work in question (Duggan 20-21). Mary Kay Duggan points out that "There are no copyright police" (20). Since there is no one out there vigilantly monitoring copyright infringement, it is up to the copyright holder to protect the work, perhaps by consulting an attorney who specializes in intellectual property law.

The 1976 Act also extends the time limit for copyright protection. For example, *Copyright Basics* mentions the "life-plus-50" rule which now means that individual copyright holders are granted copyright protection spanning their lifetimes plus 50 years; the 1909 Act gave individuals protection for only 28 years, with the option to renew (6); without timely copyright renewal, the work would become public domain material, free for the taking and using.

Another major change allows copyright to exist as you create. You no longer need to publish your work somewhere and/or affix the copyright notice to it, in order for it to be considered copyrighted by law. In 1989, the United States joined the Berne Convention, and in conjunction with joining this international copyright agreement (which supercedes others that the U.S. participated in), the notice requirement was dropped. *Copyright Basics* still suggests using the notice, which for "visually perceptible" works consists of three parts: the copyright symbol

(which can't exactly be duplicated by computer) or the word "Copyright," the year of first publication, and the name of the copyright owner. For example: (c) Copyright 1993 Ima Writer. The notice clearly establishes who is the copyright owner, when was the first publication, and indicates that this work is protected (4-5).

Q: I have a great idea— can I copyright it?

A: Well, you can't do that. *The Desktop Publisher's Legal Handbook* lists what copyright does not cover, and this includes:

Ideas, procedures, methods, systems, processes, concepts, principles, discoveries, or devices, as distinguished from a description, explanation, or illustration....In general, it is the specific expression of an idea or principle which may receive copyright protection, and *not* the idea itself....For example, a particular economic theory is not copyrightable. What is copyrightable are the specific words used to express the theory. Another expression of the same theory in different words would not be an infringement of copyright (33).

You cannot copyright facts either. Any copyright protection given to factual databases has been based on the creator's efforts beyond merely compiling the facts, and still, the copyright applied only to the arrangement of the facts. It is not just a matter of how much time or money it took to compile the database, there must also be evidence of originality (Oakley 25-26).

Q: Copyright means that nobody can make copies of my work without my permission and/or some form of compensation—is that my exclusive right?

A: Section 106 of the Copyright Law lists five exclusive rights

granted to the copyright holder. They are: the right to make copies of the original; the right to make a derivative work based on the original—a derivative work ranges from a translation to a slight editing of the original—(Sitarz 29); the right to distribute copies to the public via sale, rental, lease or lending; the right to perform the work publicly (performance implies "entertainment"); and the right to display the work publicly (display here implies "exhibit").

Generally, an individual author initially has control of these rights. They may be transferred in part or full to another party, for example, a publisher. The author is responsible for ascertaining how the five rights are treated by any contract (Oakley 25). In an attempt to make copyright keep up with technology, publishers have begun writing contracts varying the time span of copyright arrangements and the technological formats in which the copyrighted material may appear (Hilts 37).

Q: Does copyright apply to information found on the Internet?

A: Robert Oakley's "Copyright Issues for Creators and Users of Information in the Electronic Environment" discusses several reasons why you should not assume that material found on the Internet is in the public domain. For one thing, postings on the Internet are covered under the 1976 stipulation that copyrighted works be "fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device" (24-5). To protect your works most effectively, Oakley suggests three things: make sure that you retain a fixed copy—a file or printout; put the copyright notice on all versions of the work that leave your control, and apply for copyright regis-

tration (25). Promptly registering a work proves your intentions and gives you extra advantages should you ever need to enforce your rights as the copyright holder, and besides that, registration will be necessary before legal action can be taken (*Copyright Basics* 8). The defense could not claim that they did not know that the work was copyrighted, that theirs was a case of "innocent infringement"—a position which would substantially weaken your case (*Copyright Basics* 4).

Registering a work entails filling out the correct application, sending the Copyright Office a nonreturnable copy of the item, and paying a \$20 filing fee.

Q: What is fair use?

A: There are times when you may use copyrighted material and not be in violation of the law. Fair use is defined at Section 107 of the Copyright Law of the United States of America as use "for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research...." (13). The limitations to fair use begin at Section 108, but back in Section 107, the guidelines used to judge fair use require that four things be considered: the goals of the fair use (for a commercial or educational project); the type of copyrighted material being used; the percent of the copyrighted material used (1% to 99%); and the potential commercial loss that the copyright holder will sustain because of the fair use (13).

Oakley notes that the "economic impact of the copying" is of chief importance when deciding what is or is not fair use (28). If the reason for the use is to avoid purchasing another copy, or to avoid paying for permission to copy or distribute the work, such use would most likely not be considered fair use as it deprives the copyright holder of income (28).

As long as any copies you make of a machine-readable work are necessary in order to read the work itself, you would not be in violation of the copyright law, as long as you had legitimate access to the information, and you do not duplicate this copyrighted material, in any form, for permanent storage. So, simply viewing copyrighted information on your terminal or having it temporarily reside in your computer's random-access memory, apparently is not considered copying (Oakley 26).

Hilts uses an interesting metaphor to dramatize the fair use controversy: imagine that "two great express trains, called 'copyright' and 'fair use,' are speeding to take advantage of a single piece of track that is 'digital information'" (35).

One major reason for this imminent collision is that historically, the implicit bottom line was that copyright holders wanted compensation for use of copyrighted material; this was the major focus. But now in the electronic age, where texts and images can be easily reproduced, altered and displayed, substantially changing copyright owners' desires, another part of the exclusive rights—the right to control reproduction rights is gaining prominence. It is not just a matter of copyright compensation; copyright holders also have the final word as to whether you can use their works in the way that you intend to use them. (Hilts 36).

Q: What's in the future for copyright law?

A: Mark Twain once wrote, "Whenever a copyright law is to be made or altered, then the idiots assemble" (382). This may or may not be the sentiment today, but there is definitely a discrepancy between whose rights various parties feel are best served by copyright laws. An author argues that the arbitrary copyright laws work against him since all his expressions will eventually fall into public

domain—unlike traditional business assets (Beahm 72). A lawyer advises publishers that the copyright laws were set up to benefit authors rights, and it is at the publishers' peril to not keep up with copyright intricacies (Kozak 38). Francis Drummer Fisher argues that, in our electronic age, the copyright laws are hindering the creation of derivative works (e.g. databases) that could potentially be built from copyrighted material. The database producer can be charged too severely for the use of copyrighted material because this copyright permissions fee is based more on the potential value of the new product, often worth more than the "sum of its parts," than on any actual costs intrinsic to the original copyright creation process (18).

Educational institutions feel that with the advent of electronic information, copyright law is no longer just an issue for the Congress to decide and for authors and publishers to hash out amongst themselves. Rather, the creation of any future copyright laws needs to address a larger audience—the public—as copyright now addresses a social question of access to information, and the price our society will pay if democratic access cannot be guaranteed (Weber 53). Ann Okerson speaks for the academic libraries, who in an age of rising periodical costs might like to change who owns the rights. Traditionally, scholars sign away their copyrights to academic publishers who then sell the material back to the academic libraries. An academic library's specialized collection needs, and its larger mission to function as the intellectual warehouse of ideas, require that it buy the journals, at whatever the cost. Yet she points out that the scholarly work was first created by nonprofit scholars, and the research may very well have been funded in some manner by the government, in which case "it ought to be widely available as a matter of public policy, rather than treated as a market commodity" (426). She concludes that there might be hope for academic

publishing, if scholars band together and assert their rights, and university publishers and learned societies press forward to reclaim the intellectual frontier, by using their position between the scholars and the commercial publishers, and their internal resources, to become information providers themselves (431). Robert Oakley believes that despite the information transformation brought about by Internet connectivity, the Copyright Act:

is more likely to be amended and changed incrementally to deal with carefully defined, narrow problems than it is to be radically overhauled, in favor of a whole new approach that, by definition, would be untested and uncertain (23).

A Copyright Reform Act of 1993 is presently being reviewed in the House of Representatives as HR 897. In the April 6, 1993 issue of the electronic publication *ALAWON* (ALA Washington Office Newslines), the American Library Association writes that this bill:

proposes a major reorganization of government operations relating to copyright policy, the acquisitions policy of the LC [Library of Congress] as the national library, and judicial administration. ALA recommended that no action be taken on the bill without a thorough investigation of its impact and its cost in these three areas (135-39).

Under this proposal, government operations would be affected because the Register of Copyrights would no longer be appointed by the Librarian of Congress, but rather by our highest executive, the President. Additionally, the Librarian of Congress would relinquish managerial oversight of the Copyright Office regulations and the staff (123-26).

The acquisitions ability of the Library of Congress would be hurt, as creators' incentives to deposit and register copyrighted works would be weakened. You would no longer need to register your work—which has included sending a deposit of the work to benefit the Li-

brary of Congress—before you could file a lawsuit, or be eligible to recoup statutory damages, plus attorney's fees (176-78). Yet, according to *ALAWON*:

The single most important factor which enabled LC to become a true national library was the congressional designation of the Library as a repository for U.S. copyright deposits. Copyright deposits have helped to develop the Library's collections since 1856; the result is a national library with universal collecting responsibilities unrivalled by any other library in the world. Congress, authors and other creators, publishers and producers, and other libraries and their users all benefit from this arrangement (147-54).

Ralph Oman, Register of Copyrights, testified before the House Subcommittee on Intellectual Property that these materials, which last year were mandatorily deposited with the Copyright Office, to be later deposited in the Library of Congress, were valued at over \$12 million dollars (169-71).

Q: I have more questions, and I need information. Whom should I contact?

A: The Copyright Office has a Public Information Office [(202) 707-3000] that provides general copyright information, and answers questions about copyright registration. They are not permitted to give legal advice. There is also a 24-hour Forms Hotline number [(202) 707-9100] where you may request application forms for copyright registration and/or informational circulars. If you are unsure of which form or circular you need, they ask that you first call the Public Information Office.

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The Network Connection

By Dr. Philip Baczewski, Assistant Director, Academic Computing Services and BITNET INFOREP (ac12@unt.edu).

*This column is a continuing feature of **Benchmarks** intended to present news and information on various aspects of wide area networks. This month's column is "back by popular demand" It first appeared in the April 1991 issue of **Benchmarks**, page 20.*

Guidelines for Electronic Mail on BITNET (or Anywhere Else)

Back in the "old" days, people were forced to perform their communication through writing, by hand, on blank sheets of paper and then conveying those blank sheets to others. It is even reported that the U.S. Postal Service, today known primarily for its ability to deliver multitudes of "junk mail" and bills to your door, conveyed large numbers of these hand-written communiques, known as "letters." The exchange of letters tended to foster a certain style of communication: letters were received and thoughtfully read; letters were generally more formal than spoken communication; letters had permanence and could be saved for later reference; in responding to letters, people would often think and then write one sentence, think and write another sentence, etc. Nowadays, electronic mail has revolutionized communication. There is no need for paper or messy handwriting utensils. You no longer have to use that formal writing style. Mail is received and read with heretofore unknown speed. It's now possible to dash off a reply to an electronic mail message without even thinking.

Well, maybe it's not quite that cut-and-dried, but electronic mail does seem to have the ability to evoke what are known in E-mail circles as "flames": emotional responses to messages which don't necessarily do much for fostering effective communication. Norman Z. Shapiro and Robert H. Anderson, in a report prepared for the National Science Foundation and published by the Rand Corporation, list several possible causes for the flame phenomenon:

- Difficulty in determining the formality of a message from its appearance.
- Attempts at humor, irony, sarcasm, and wit are often misinterpreted.
- Cues such as body language [or voice inflection] are lacking in electronic mail.
- The ease of an immediate "reply" encourages "off the top of the head" responses.
- Electronic messages containing hasty or ill-chosen words can stay in electronic in-boxes or can be printed in a way that gives them importance never intended.
- Although anonymity is often mentioned as a factor, we have observed no significant difference in "flaming" between remote correspondents who don't know each other personally, compared with communication among people who know each other.

Shapiro and Anderson go on to give several suggestions for minimizing the possible problems of "escalating emotions."

- Carefully label message that have a deliberate emotional content. Sometimes just the annotation "Flame! Flame!" alerts the reader to the fact that the writer knows he or she is being emotional.
- Resist the temptation to fire off a response. Write the response, file it away, and wait 24 hours. Reconsider the response later, in the light of a new day (and perhaps a rereading and reinterpretation of the original message).
- Use alternative media to break the cycle of message-and-response. A telephone call or personal conversation can do wonders, when we can use body language, eye contact, and the other cues we've developed.

Just as in other human situations, the development of an etiquette can help solve some of the problems which potentially arise with electronic communication. John Quarterman, in his book entitled *The Matrix*, offers a number of suggestions concerning E-mail etiquette when sending messages to others or posting messages to BITNET LISTSERV or USENET mailing lists:¹

- ☐ **Electronic mail is not like other media.** Treating E-mail just like the telephone, paper mail, or any other medium can lead to misunderstandings and mistakes.
- ☐ **Emulate experienced users.** See how those already posting to mailing lists make the most effective use of those forums.
- ☐ **Be brief.** Often a few well-chosen words are better than long-winded elaborations.
- ☐ **Label your message.** Choose a title that fits the subject and stick to it.

¹ Quarterman, John S., *The Matrix* (Digital Press, 1990) 34.

- ☐ **Remember your audience.** Use language, references, and subjects that will be comprehensible and not objectionable.
- ☐ **Choose an appropriate medium and forum.** Use a conference or mailing list on a topic related to that of your message.
- ☐ **Identify yourself.** Sign your message with some appropriate information such as your name and affiliation.
- ☐ **Post new ideas.** Try not to repeat what has already been said except in brief confirmation.
- ☐ **Respond to the topic and not the person.** Try to understand what the person is saying. If you can't understand what the person is saying, ask. If you must criticize someone, give them a chance to respond. If you comment on the style of a message, respond to the content as well.
- ☐ **Read other messages before responding.** Others may have already made the same obvious response.
- ☐ **Don't respond in anger.** Wait a few minutes or hours, or even until the next day. If you are still angry when you respond, say so.
- ☐ **Give the benefit of the doubt.** Mistakes, misunderstandings, and ignorance are far more common than maliciousness.
- ☐ **Be careful with humor and sarcasm.** Many people have trouble recognizing these things even in person. Some networks have developed typographic conventions to get around the difficulties of expressing subtleties of expression through ASCII characters. One of the more universal is that UPPERCASE means shouting. Another is the use of the sideways "smiley face," :) or :-), to indicate lack of serious intent.
- ☐ **Do be encouraging and polite.** The most effective encouragement is often a simple response acknowledging a posting.
- ☐ **Discourage when necessary.** But do it privately and politely when pos-

List of the Month

Each month we will highlight one BITNET, Internet, or USENET Special Interest Group (SIG) mailing list. This month's list...

ETHICS-L@MARIST.BITNET

Co-Moderators: Jane Robinett (Internet) JROBINET%POLYTECH.BITNET@CUNYVM.CUNY.EDU (Bitnet) JROBINET@POLYTECH; Matthew J. Miner (Internet) MINER%POLYGRAF.BITNET@CUNYVM.CUNY.EDU (Bitnet) MINER@POLYGRAF; Harry Williams (Internet) HARRY@MARISTVM.MARIST.EDU (Bitnet) HARRY@MARIST

Discussions of ethics in computing usually generate more heat than light. This E-conference could do a lot toward generating more light if we do more than trade war stories and opinions of the "I'm right and you're NOT" variety. Of course we can't get any work done without some war stories, since they furnish food for thought. But we shouldn't stop there. Given our experiences, we ought to be able to delineate the basic issues and hot areas in computer ethics. Some current ones have to do with:

- ownership of information (both data and program files)
- what happens when systems programs fail? Is anyone responsible for damage done? Or is the responsibility only for the necessary fix?
- responsibility for program failures (Is the company responsible? The programmer? The lead programmer? The project manager?) Who's responsible for the "fix"?
- how much privacy is reasonable (there are all kinds of levels here: databases, systems, LANs, networks, etc.)

To subscribe to this list, send the following command to LIST-SERV@MARIST.BITNET via the BODY of an E-mail or BITNET interactive message:

SUBSCRIBE ETHICS-L your full name ■

sible. Don't discourage at all unless you're sure it's needed and that you are an appropriate one to do it.

- ❑ **Assume permanence and ubiquity.** Mail posted to discussion lists and sometimes even mail to individuals may be saved permanently, with or without your knowledge, and may be read by anyone, at any time, anywhere. Remember that even if a mail message has been deleted, it may exist somewhere on a backup tape.

It's not enough just to observe etiquette. Quarterman also provides some valuable guidelines for E-mail *ethics*:

- ❑ **Observe copyrights.**
- ❑ **Cite sources.**
- ❑ **Be careful with private correspondence.** Do not redistribute private correspondence without permission. Don't read other people's mail without permission. If you receive a message by accident, return it to the sender or forward it to the intended recipient.
- ❑ **Be honest.** Don't distribute false information, and don't pretend to be someone you aren't in order to take unfair advantage of someone else.
- ❑ **Someone is paying the bills.** Remember that what you post may cost others time and money. Try to stick to useful information distributed to appropriate people.
- ❑ **Don't post harmful instructions or information.**
- ❑ **Resource sharing systems are not like anything else.** A computer network is neither like a home computer system nor like any other single computer system. The damage that can be caused by mistakes or malevolence increases with the power and extent of the system.
- ❑ **People depend on networks and conferencing systems.**
- ❑ **Don't leave a security hole unfixed.** This applies to system administrators, system vendors, and users who choose obvious passwords.

- ❑ **Don't use security holes to cause damage.**

Some of these points of etiquette or ethics are obvious; others perhaps wouldn't occur to you. By following

these guidelines we can make electronic mail on BITNET or any other network a very effective and efficient means of communication. Or we can wax nostalgic for the good "old" days of paper, fountain pens, envelopes, stamps, waiting five days to get a letter.... ■

Burrowing Through the Internet in Search of Information

By Claudia Lynch, *Benchmarks* Editor (as04@unt.edu)

In my ever-present quest for information, I have come to view Gopher (see the article on page 18) as one of my best friends. When I was looking for information about "computing and the law," I sat down, typed a few commands at my PC and my friend Gopher was there waiting to guide me through the highways and byways of the Internet. I knew that CPSR, EFF and the Internet Society would probably contain legal information, so when I saw these on a menu, I immediately began looking through the various files that were listed.

Following are the steps that got me to my information goal:

- ❶ **I found a host at UNT that has Gopher on it.** In my case, we have PCGOPHER on our file server. It is also available on the VAX, Solbourne, and CMS. Gopher is on the ACS file server too, and you can access it in the ACS General Access Lab (ISB 110). It may be available on other file servers throughout campus. If you are unsure about the file server in your department, ask the file server manager.
- ❷ **I chose Other Gopher & Information Servers from the menu.**
- ❸ **I chose North America from that menu.**
- ❹ **I chose USA from the North America menu.**
- ❺ **I chose General from the USA menu.**
- ❻ **I chose CPSR (Computer Professionals for Social Responsibility) and browsed around their "Gopherspace"**
- ❼ **I went back a level and chose Electronic Frontier Foundation and browsed around in their area.**
- ❽ **I went back a level and chose Internet Society and browsed around in their area.**
- ❾ **I exited the Gopher session.**

In each area, if I saw something I wanted to keep I could save it as a file on my PC (This may vary, depending on how you are accessing Gopher.) All in all, it was a very painless and profitable experience. I highly recommend "Gophering it."

If you have questions about Gopher, contact Computing Center Support Services at 565-2324 and they will either answer your questions or connect you with someone who can. ■



News From the Gopher Hole

By Mark Thacker, CC1 LAN Manager
(Thacker@unt.edu)

This column covers features and resources available through the University's Gopher Campus Wide Information System (CWIS). Gopher is available on various UNT host computers including the VAX and Solbourne. It is also available in some of the General Access Labs, including ISB 110, and on various Novell file servers around campus.

Gopher is finally here! Starting June 1, 1993 and lasting at least through August 31, 1993, a project will be underway to make Gopher an official production and system and to implement USENet News to support local UNT discussion groups similar to a BBS. Additionally, a coalition of staff members from various parts of the University will be working to position Gopher as a Campus Wide Information System for UNT. Expect to see more clients, a better server and more information about Gopher in the near future.

This article is the first in many publications designed to explain what Gopher is, where you can get access to it, how to contribute information and how to explore the vast new frontier of Gopherspace!

What is Gopher?

Gopher is a Campus Wide Information System (CWIS) and an Internet resource server based upon client/server technology. Simply put, Gopher allows a user to access a variety of information about UNT events, departmental activities and world-wide Internet documents from almost any computing platform through one common interface. That is, you, as the user need not know where a resource is located, its address, how to get to it or even what format various databases are in — Gopher makes access to each item completely transparent and easy!

Gopher is primarily written by the University of Minnesota. It consists of a server program which typically runs on a UNIX machine and several client programs which talk to the server. Clients currently exist for MS-DOS machines, Macintoshes, X-Window terminals, UNIX VT-100, VAX/VMS VT-100 and NeXT. Note that the NeXT platform has not been implemented here yet.

Gopher organizes items in a hierarchy similar to a file folder system. In this way, information is arranged to make locating it easier. If you should select or choose an item named "On-Line Databases & Docs" for example, you will open a "folder" that contains a list of databases and documents. There may be more "folders" beneath this also. Those of you who use the MS-DOS directory/subdirectory structure or the Macintosh OS nested folder should be familiar with this hierarchical concept.

This first article concentrates on giving you an overview of the Gopher information server and providing information about where you can run the Gopher client programs from. It also details information about each client. Future articles will deal with specific resources available in the Gopher system.

What Resources are Available?

Gopher servers can provide access to the following types of resources:

- Full-text documents with searching ability
- Interactive login with Telnet to other resources
- Access to FTP software archive sites with downloads
- CSO Electronic Phone Book searches
- Select USENet NEWS world-wide discussion groups
- Indexed documents, reports and journals
- Hypertext searches for quick searching of documents containing a word found in another document
- Sound & Picture files¹

As you can see, Gopher does concentrate on searching items. This means that Gopher servers can provide complete on-line documentation with an index that can then be searched; the search returns a list of documents (chapters of a book for instance) that contain the search item.

Phone book support takes this concept a step further and allows you to search a college's/company's electronic phone book database. You can search by last name, department, phone number, etc. and receive a list of individuals that match your search criteria. Phone books return someone's office phone, work address, classification, full name, electronic mail address and more.

Where Is Gopher Available?

Gopher is available in the ISB 110 Academic Computing General Access Lab, the Chilton 235 School Of Community Service General Access Lab, the VAX and Solbourne.

¹Limited support on Mac/NeXT/UNIX platforms - see information about Expanding Capabilities.

General Information

It is also available on the CC1 Novell file server for Computing Center employees. Client availability will increase as the Gopher Campus Wide Information System project takes off this summer. Contact Mark Thacker at 817-565-2568 for current information about Gopher availability.

How do I Run Gopher Clients?

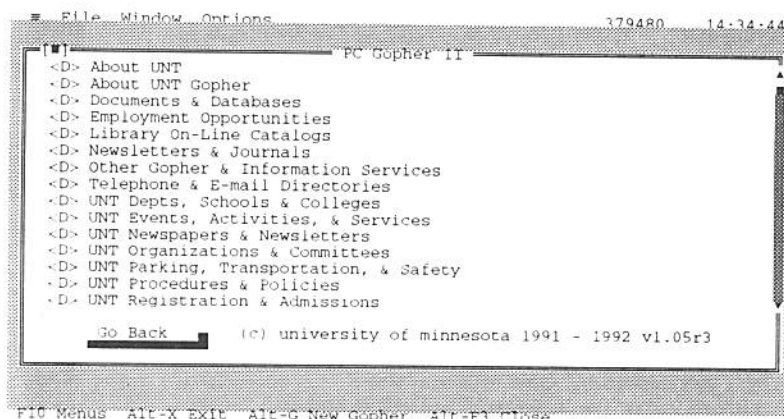
Each available client is listed below with general instructions about how to run it and how to choose some of the most important features. Also featured are screen snapshots of the PC Gopher II IBM-PC client, TurboGopher Macintosh client and UNIX - VAX/VMS VT-100 client.

□ PC Gopher II

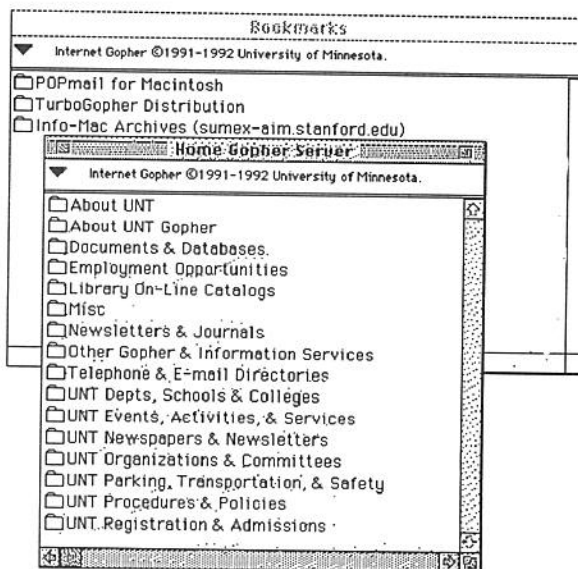
- **Starting:** Choose the **PC Gopher** menu item if you are in ISB 110 or type PCGOPHER at the DOS prompt.
- **Exiting:** Press <ALT-X> or use your mouse to choose the <ALT-X> Exit button at the bottom of the screen.
- **Selecting:** Use your arrow keys to move the highlight bar to an item you want and press <RETURN>. You may also use a mouse to double-click on an item you want.
- **Saving Files:** Choose **Files** by typing <ALT-F> or clicking on it with your mouse. Choose *Save File* and enter the full path, including filename, of where to save the file.
- **Moving Around:** Selecting a folder (<F> in front of the name) moves you down; choosing the **Go Back** button (click on it or press <ALT-K>) moves you up one level.
- **Closing Items:** Press <ALT-F3> or click on the close box in the upper left-hand corner of the item's window.

NOTE: A handout titled "Introduction to PC Gopher II" is available from the Computing Center in ISB 119.

Sample PC Gopher Screen



Sample Macintosh TurboGopher Screen



□ Macintosh TurboGopher

- **Starting:** Double-click on the **TurboGopher**
- **Exiting:** Choose **Quit** from the **File** pull-down menu or type **COMMAND-Q**.
- **Selecting:** Double-click on the item to select it.
- **Saving Files:** Choose **Save as Text** from the **File** pull-down menu or press **COMMAND-S**. Use the dialog box to select where to save the file to.
- **Moving Around:** Selecting a folder (file folder icon) moves you down; choosing a menu from the **Recent** pull-down menu or from the black triangle in the upper left-hand corner of the current window will allow you to return to a recently visited menu.
- **Closing Items:** Click on the close box in the upper left corner of the window.

General Information

Sample UNIX or VAX/VMS Gopher Screen

```
Internet Gopher Information Client v1.1
Root gopher server: gopher.unt.edu

1. About UNT/
2. About UNT Gopher/
3. Documents & Databases/
4. Employment Opportunities/
-> 5. Library On-Line Catalogs/
6. Newsletters & Journals/
7. Other Gopher & Information Servers/
8. Telephone & E-mail Directories/
9. UNT Depts, Schools & Colleges/
10. UNT Events, Activities, & Services/
11. UNT Newspapers & Newsletters
12. UNT Organizations & Committees/
13. UNT Parking, Transportation, & Safety/
14. UNT Procedures & Policies/
15. UNT Registration & Admissions/

Press ? for Help, q to Quit, u to go up a menu          Page: 1/1
```

☐ UNIX or VAX/VMS (VT-100) Gopher

- **Starting:** Type `gopher` at the UNIX prompt or log in to the Solbourne as username `gopher`.
- **Exiting:** Type `q` to quit.
- **Selecting:** Use the up/down arrow keys to move the pointer to an item that you want, then press either `<RETURN>` or hit the right arrow key to move into that item. You can also type the number of a menu item and press `<RETURN>`.
- **Saving Files:** Type `s` for Save when an item is displayed. Type in the complete or relative path name to save it to.
- **Moving Around:** Selecting a folder, (items with a `/` after their name) using `<RETURN>` or right arrow, moves you down; typing `u` or hitting the left arrow key moves you back up.
- **Closing Items:** Pressing `<RETURN>` when an item is displayed will continue the program and close the item.

☐ X-Window XGopher

- **Starting:** Type `xgopher` from the Solbourne or launch `/usr/local/bin/X11/xgopher` from your workstation.
- **Exiting:** Click on the **Quit** button.
- **Selecting:** Double click on the item or click once on an item and then click on the **Fetch Selection** button.
- **Saving Files:** Click on the **Save to File** button when an item is displayed.
- **Moving Around:** Selecting a **folder** (double right brackets in front of it) moves you down a level; clicking once on the **Go Up a Level** button moves you up.
- **Closing Items:** Clicking on the **Done** button closes open items.

Expanding Capabilities

The ability of Gopher to handle and display multiple types of data files is growing on a daily basis. The Turbo-Gopher Mac client, UNIX VT-100 and Xgopher clients can all call external programs to play audio or display GIF or JPEG images. The PC Gopher client currently cannot do so, but will be able to in a future version.

Gopher+ is a proposed extension to Gopher by the University of Minnesota Gopher Team. This set of extensions allow for a standard way of defining multiple views of a document. For example, one could display a single document in the Gopher system that is actually available in multiple languages. When the user selects the document, the Gopher client can determine what language or file type is best to download and display. If I am on a multilanguage machine, like a Macintosh, the Japanese version of a document might be interesting to read.

Gopher+ also supports the ability to have form fill-in items. That is, the Gopher administrator could post a Suggestions document that allows the user to complete a form with suggestions for changes. This document can then be mailed back to anyone the administrator designates.

Conclusion

Gopher is a very exciting way of distributing Internet resources through a common interface. The amount of information contained in Gopher servers around the world is absolutely amazing. Gopher has experienced outstanding growth — from a handful of servers a year ago to over 1,600 servers worldwide last month! Future editions of this column will concern specific information resources of the Academic Computing Gopher. For now, get out there and start exploring *Gopherspace*. ■

Reminder: MUSIC/SP Service Terminates August 31, 1993

By Dr. Philip Baczewski, Assistant Director of Academic Computing and Associate Editor of *Benchmarks* (ac12@unt.edu)

Attention all MUSIC users! If you haven't done so, now is the time to move your files from MUSIC to some other system. MUSIC service will terminate on August 31, 1993 after which time you will no longer have access to your MUSIC files. If you have less than 1000K of files, the easiest way to save your files may be to download them to a PC using Kermit. See "Transferring files from MUSIC to Other Platforms" in the January/February 1993 issue of *Benchmarks* for more information.

Choosing the Right Operating Environment

In making the transition from MUSIC to another platform, VM/CMS will offer the most similar environment. CMS supports all of the activities which were available via MUSIC — editing and job submission to MVS, interactive access to programming language compilers, mail access to BITNET, etc. — and more: interactive access to SAS and SPSS, full access to BITNET, access to the Internet, and a more up-to-date selection of programming language compilers. If you currently do not have access to CMS, you can request that it be added to your User-ID by completing a UNT Computing Center *User-ID Update form* (the pink one). To check if you currently have CMS access, log onto MUSIC and issue the **USERID** command. You will see a list of all UNT host systems upon which your User-ID is active. This form can be used to add access to other academic host systems as well.

CMS is not the only choice, however, when selecting a new platform for your activity. In the area of statistical programming, for example, many faculty members have moved to the microcomputer platform for instruction. The development of microcomputer laboratories on campus, both specialized and general access, has made these platforms more accessible to students. Microcomputers offer the student the advantage of less complicated access to the statistical programming environment and the ability to archive their work on portable and inexpensive floppy diskettes. Because Academic Computing Services maintains site licenses for SPSS/PC, SPSS/Macintosh, and SAS/PC, these programs are easily made available in a lab environment via their installation on a Novell file server. You may also find that many of your individual statistical processing needs can be easily met by one of these microcomputer programs.

For those whose research demands high performance statistical processing in SAS, especially work which is CPU intensive, Academic Computing's Solbourne UNIX minicomputer offers such a platform. Although the UNIX operating system can be somewhat mysterious at first, once you enter the SAS programming environment, your interaction with the system will be very similar to working within the PC or CMS versions of SAS. Work is in progress to make the CRSP and COMPUSTAT data collections available on the Solbourne.

If you've been using MUSIC primarily for BITNET mail, you might wish to investigate whether Pegasus mail is available on your departmental file server. Pegasus mail offers access to both BITNET and the Internet directly from your PC. Another popular platform for E-mail is ACS's VAX/VMS system which offers access to BITNET, the Internet, as well as many other wide-area network resources. ■

Staff Activities

Baczewski Guest Lecturer/Composer

On March 24, 1993, Dr. Philip Baczewski, Assistant Director of Academic Computing and Associate Editor of *Benchmarks*, gave an invited guest lecture entitled "Sound as Thematic Element: A New Paradigm for Compositional Processes" at Richland College in Dallas. He additionally served as Guest Composer for the Richland College Compositional Recital held on May 12, and provided student composers with commentary and critiques of their works. ■

UNT Obtains New Product Licences

By James Yarbrough, ACS Statistical Consultant (ac35@untvm1)

The University of North Texas has obtained new product licences for two SPSS products: SPSS/PC+ version 5.0 and SPSS for Windows. Both will soon be available on network servers. (Contact your server manager if your server does not yet have it.) They may also be installed on campus computers or faculty or full-time staff computers at their place of residence. For assistance, contact Panu Sittiwong (565-2140), James Yarbrough (565-4066), or Phanit Laosirirat (565-4066) at Academic Computing Services (ISB 119).

The system requirements for the two platforms are listed on the following page.

SPSS/PC + V5.0

- ☐ a 286, 386, or 486 personal computer
- ☐ at least 2 MB RAM
- ☐ a hard disk with at least 20 MB of available storage space
- ☐ PC or MS-DOS 3.0 or higher
- ☐ Math coprocessor strongly recommended

SPSS for Windows

- ☐ 386 or 486 personal computer
- ☐ at least 4 MB RAM
- ☐ a hard disk with at least 20 MB of available storage space
- ☐ Microsoft Windows 3.0 or higher
- ☐ PC or MS-DOS 3.0 or higher
- ☐ Windows compatible mouse strongly recommended
- ☐ Math coprocessor strongly recommended
- ☐ EGA or VGA monitor or Hercules graphics card ■

Call For Project Descriptions

This article appeared in EDUPAGE, May 20, 1993.

CNI, the Coalition for Networked Information, is seeking information on projects that promote the use of networked information resources and services in the context of the teaching and learning environment. For a copy of the full "Call for Project Descriptions," send mail to listserv@bitnic containing the message: `get cni cfp euitinfo`. For more information, contact Joan Lippincott at CNI, joan@cni.org ■

Report From the SUGI 18 Conference

By Panu Sittiwong, ACS Research and Statistical Support Manager (panu@unt.edu)

Live from New York, it's the SUGI 18 Conference! During a three-day period from May 9 to May 12 1993, the biggest BUG ever was reported to have been discovered at the New York Hilton Hotel — more than 4,000 SAS users from around the world gathered at the annual SAS Users Group International (SUGI) Conference.

I was fortunate to have a chance to attend the conference and represent the University of North Texas. This article is my account of what happened at the conference and the consequences that may apply to SAS users on campus.

SAS 6.08

The conference opened with the Opening Session at the Radio City Music Hall. In this session, SAS Institute Inc. announced the availability of the production version of SAS version 6.08 for all platforms. They also promised that the new version will be shipped to all sites by June 6th. Hence, the SAS users who normally use SAS either on CMS, MVS, or UNIX can expect to see the test version of the software available sometime during the summer. Keep your eyes open for the announcement.

SAS for Windows

SAS Institute also has good news for SAS/PC users as SAS for Windows is also available. Currently, Academic Computing Services is in the process of converting our SAS/PC site license agreement to include the SAS for Windows system. The SAS for Windows system will include all the available modules of the SAS software. We expect to have the software available at UNT around the end of June. In the meantime if you plan to use the software, you will want to consider upgrading your pc and equipping it with a minimum of 8 meg of memory, a mouse and the Windows 3.1 software.

My Contribution

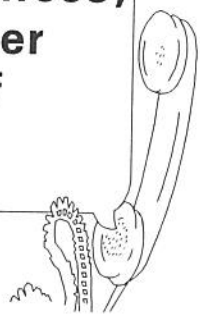
At the conclusion of the opening session, we were treated to the theme music from *Cats* and *The Phantom of the Opera*. The next two-and-a-half days, I was real busy with the conference, as I had an opportunity to serve as a session coordinator ("Information System Development") and was an invited speaker for one of the hands-on workshops ("Preliminary Exploratory Analysis Using SAS/Insight").

SUGI 1994

There is good news for those of you who wanted to attend the SUGI annual conference but were concerned about the location of the conference. Next year SUGI will be held at the Loews Anatole Hotel in Dallas, April 10-13. SUGI has invited anyone who would like to present a paper to do so. If you would like to do so, you can contact me for more information (565-2140, panu@unt.edu). ■

General Information

Calls for Papers, Conferences, and Other Items of Interest



We have received the following "calls" and announcements from various organizations.

Call for Articles, Papers, Proposals

- **Tenth International Information Security Conference, IFIP SEC '94, May 23-27, 1994, Palm Beach, Aruba, Dutch Caribbean** — Papers are being accepted for presentation at this conference, whose theme is "Dynamic Views on Information Security in Progress." Of particular interest are papers on: Information security aspects in developing nations; Security of health care systems; Aspects of transborder

data flow; Fraudulent aspects and networks; Security in banking and financial industry; Evaluation criteria in information security; Cryptology; Risk management and analysis; Contingency planning and recovery. Deadline for submission is **September 30, 1993**. For further information contact the Secretariat IFP SEC '94 Aruba, Wayaca 31a, Suite 101/104, Aruba - Dutch West Indies, Phone: 31 (0)43 618989, FAX: 31 (0)43 619449, Internet: tc11@cipher.nl

- **Manuscripts are being accepted for inclusion in *Studies in Technological Innovation and Human Resources*, Vol. 5: Technology and Cross-national Challenges.** Each manuscript must conclude with a section entitled "Implications for Research and Management." Additionally, the paper's relationship to the subject of "Technology and Cross-National Challenges" must be clear. Papers must conform strictly to the APA style guide (3rd Edition) and should be approximately 40 pages long. Deadline for submission is **August 1, 1993**. For more information or to submit papers (send 5 copies) contact Urs E. Gattiker, Editor, *Technological Innovation and Human Resources*, Faculty of Management, The University of Lethbridge, Lethbridge, Alberta, Canada T1K 3M4 Internet: gattiker2@hg.uleth.ca Phone: 403-320-6966.
- **Proposals for papers, panels, tutorials, workshops and demonstrations/posters are being accepted for Ed-Media 94, World Conference on Educational Multimedia and Hypermedia, June 25-29, 1994, Vancouver, Canada** — Major topics include authoring, navigation, language learning, learning by doing, media in education, hypermedia systems and applications, and novel applications/approaches and ideas. Deadline for submissions is **October 22, 1993**. For more information contact ED-MEDIA 94/AACE, P.O. Box 2966, Charlottesville, VA, 22902 Phone: 804-973-3987, Internet: aace@virginia.edu, FAX: 804-978-7449.

Conferences

- **Second Annual Conference on Multimedia in Education and Industry, July 26-31, 1993, Savannah, Georgia** — You can attend this conference, complete with hands-on seminars for as little as \$25 or as much as \$495 (for 3 hours grad. credit). For more information, contact Bob David at davidb@citadel.edu or call the Association for Applied Interactive Multimedia at 1-800-553-7702.
- **EDUCOM's Educational Uses of Information Technology (EUIT) Program's 8th Annual Summer Meeting, August 4-6, 1993, Snowmass Village, Colorado** — Academic computing professionals, faculty members, and information technology vendors are invited to this annual event. This year the focus of the meeting will be on the issues and challenges of integrating information

technology into the teaching and learning process. For more information send mail to edit@educom.edu

- **The International Symposium on Technology and Society 1993 (IS-TAS '93), Washington DC, October 22-23, 1993** — The theme of this year's conference is "Technology: Whose Costs? ... Whose Benefits?" For further information, contact Jackie Hunter (703) 803-8701.

Summer Programs and Workshops

- **Summer Institute on Leadership and Change in Libraries, School of Information Studies, Syracuse University, July 17-August 6, 1993** — A variety of two-day workshops and one-week courses are taught by regular and visiting faculty. For more information contact Dr. Ruth Small, Program Coordinator, Phone: (315) 443-2911, FAX: (315) 443-5806, Internet: druth@suvmsyr.edu
- **2nd Inter-university Center for Educational Research (ICO) International Summer School on Educational Research, September 11-18, 1993, University of Twente, The Netherlands** — The ICO summer school offers short courses to graduate students preparing for their PhDs on major topics in educational research as well as a graduate student conference, workshops and a symposium. The purpose of the school is to provide students with an opportunity to exchange ideas about their research projects in an international setting and to meet internationally acknowledged experts in educational research in an informal setting. For more information and registration, contact Gerry J. Reezigt, University of Groningen, P.O. Box 1286, 9701 BG Groningen, the Netherlands. Phone: 31-50-636660 FAX: 31-50-636670 Internet: guldmondh@rugnl.nl. Deadline for registration is **June 15, 1993**. ■

General Information



Academic Computing Services is offering the following short courses for the remainder of the 1993 summer sessions. Please preregister to attend (a registration form can be found at the end of this issue). **A maximum of 10 people will be admitted to each of the courses held in ISB 110. A maximum of 15 people will be admitted to each of the courses held in Chilton 255 and ISB 134B.** *Academic Computing Services reserves the right to cancel ANY course that has 5 people or fewer registered 3 days before the date of the course.*

PLEASE NOTE: Faculty and students have first priority to register for these classes. All people registering for hands-on (ISB 110) HDS, VAX and/or UNIX courses should have current User-IDs. Applications for User-IDs are available in the Computing Center main office (ISB 119).

HDS, VAX, AND UNIX COURSES

1. **Introduction to CMS** — CMS is an interactive operating system employed by academic users to access the Academic HDS/8083 IBM-compatible mainframe computer at UNT. CMS users have access to a variety of programming languages, a sophisticated text editing system, and several statistical analysis packages. CMS users can also submit batch jobs to the OS/MVS system.

One two-hour session, held in the Science Library (ACS General Access Lab ISB 110):

- **Monday, July 19: 3-5 p.m.** Instructor: Philip Baczewski

2. **Introduction to vi** — This course is recommended for individuals who want to learn the standard UNIX editor, vi.

A two-hour session, held in the Chilton General Access Lab (Chilton 255):

- **Monday, June 21: 3-5 p.m.** Instructor: Staff

STATISTICAL PACKAGE COURSES

1. **Introduction to SAS** — This course is recommended for individuals who plan to incorporate statistical analyses into their research. The basic concepts of the SAS system are covered in this course. **This course or prior knowledge of SAS is a prerequisite for all other SAS courses.**

A two-hour session, held in the Science Library (ACS General Access Lab, ISB 110):

- **Tuesday, June 22: 2-4 p.m.**
Instructor: James Yarbrough

2. **Introduction to SAS on CMS** — This course is recommended for individuals who plan to use SAS on the academic HDS IBM-compatible mainframe. Topics covered include creating SAS programs, reading data into SAS programs, saving SAS datasets on a mini-disk, importing/exporting SAS datasets to and from other SAS systems, and preparing and submitting SAS jobs to OS/MVS. SAS is used interactively in this course. **Prior knowledge of the SAS command language or attendance in the Intro. to SAS course is required.**

A one-hour session will be held in the Science Library (ACS General Access Lab, ISB 110):

- **Thursday, June 24: 3-4 p.m.**
Instructor: James Yarbrough

3. **Introduction to SAS on UNIX** — This course is recommended for individuals who plan to use SAS on the Solbourne minicomputer. Topics covered include creating SAS programs, reading data into SAS programs, saving SAS datasets on a minidisk, importing/exporting SAS datasets to and from other SAS systems, and preparing and submitting SAS jobs to OS/MVS. This class will utilize the SAS menus under the X Window System. **Prior knowledge of the SAS command language or attendance in the Intro. to SAS course is required.**

A one-hour session will be held in the Science Library (ACS General Access Lab, ISB 110):

- **Tuesday, June 29: 4-5 p.m.**
Instructor: Panu Sittiwong

General Information

4. Introduction to SPSS - This course is recommended for individuals who plan to incorporate statistical analyses into their research and want to use SPSS on the academic HDS IBM-compatible mainframe. It emphasizes using SPSS from the CMS operating system. Topics covered include creating SPSS programs, reading data into SPSS programs, saving SAS datasets on a mini-disk, importing/exporting SPSS datasets to and from other SPSS systems, and preparing and submitting SPSS jobs to OS/MVS. SPSS is used interactively in this course.

A three-hour session to be held in the Science Library (ACS General Access Lab, ISB 110):

- **Wednesday, June 23: 1-4 p.m.**
Instructor: Phanit Laosirirat

5. Introduction to SPSS PC + - This course covers the basics of using SPSS PC +, Version 4.0.1, for IBM and compatible PCs. Topics covered include using the menu and help interfaces in REVIEW, loading files, selecting variables, and running statistical analyses. Emphasis will be placed on building files for execution interactively. Prior knowledge of the SPSS command language or attendance in the Intro. to SPSS course is required.

A three-hour session, held in the Science Library (ACS General Access Lab, ISB 110):

- **Monday, June 28: 2-5 p.m.**
Instructor: Panu Sittiwong

WIDE AREA NETWORK COURSES

1. Introduction to Electronic Mail and Discussion Groups on CMS - This course will cover the basics of using CMS MAIL to send and receive electronic mail to both Internet and BITNET. The use of electronic mailing lists including BITNET LISTSERV will also be discussed. Prior knowledge of CMS is required.

A two-hour session, held in the Academic Computing Conference Room (ISB 134B):

- **Wednesday, June 30: 3-5 p.m.**
Instructor: Philip Baczewski

2. Introduction to Electronic Mail and Discussion Groups on VAX/VMS -

This course will cover the basics of using VAX MAIL to send and receive electronic mail to both the Internet and BITNET. The use of electronic mailing lists including BITNET LISTSERV will be discussed. Using USENET newsgroups via the ANU News program on the VAX will also be explored. Prior knowledge of VAX/VMS is required.

A two-hour session, held in the Academic Computing Conference Room (ISB 134B):

- **Wednesday, July 14: 3-5 p.m.**
Instructor: Sumangala Bhattacharya

3. Introduction to Internet Tools and Techniques - The Internet is a collection of related computer networks that link almost a million computers throughout the world. This course will cover file transfer, remote login, use of on-line library catalogs at other universities,archie, HYTELNET, Gopher, and many other Internet topics except electronic mail. Prior knowledge of at least one of the following interactive operating systems is required: VAX/VMS, CMS, UNIX, MS-DOS, MAC.

A one and one-half-hour session, held in the Computing Center Conference Room (ISB 134B):

- **Wednesday, July 21: 3:30-5 p.m.** Instructor: Sumangala Bhattacharya

MICROCOMPUTER COURSES

1. Introduction to Procomm Plus - An overview of the Procomm communications package for personal computers or compatibles is presented for people who wish to access host systems from their PCs. Topics covered include setting communications and file transfer parameters, setting up and using Procomm's dialing directory, and connecting to UNT host computers through the local area network.

A one-hour session, held in the Chilton General Access Lab (Chilton 255):

- **Wednesday, June 23: 2-3 p.m.**
Instructor: Eriq Neale

2. Introduction to Pegasus Mail - This course is recommended for people, especially faculty and staff, who want to learn about using Pegasus Mail (Pmail) to communicate with others on campus and via the Internet.

Two three-hour sessions, held in the ACS General Access Lab (ISB 110):

- **Thursday, July 1: 2-5 p.m.**
Instructor: Mike Murdock
- **Thursday, July 15: 2-5 p.m.**
Instructor: Mike Murdock ■



BENCHMARKS FORUM

BENCHMARKS FORUM is intended to serve as a vehicle for answering questions that may be of general interest to the user community. If you have a question, please send electronic mail to the Benchmarks editor (as04@unt.edu) or write it down and drop it by the Computing Center. We will try to answer it in the next issue.

Question: *I am really interested in finding out all I can about what's going on in the federal government. Can you give me more information than what was printed in the March/April 1993 issue of Benchmarks?*

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Answer: The following FAQ should be of help (it was edited slightly for publication here):

Send comments and questions regarding this information to the White House at 75300.3115@COMPUSERVE.COM

White House Electronic Publications and Public Access E-mail Frequently Asked Questions Updated April 7, 1993 Table Of Contents

- I. Signing up for Daily Electronic Publications.
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- II. Searching and Retrieving White House documents.
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 - GOPHER
 - FedWorld BBS
- III. Sending E-mail to the White House.
 - CompuServe
 - America OnLine
 - MCI
 - Fidonet
 - Internet

I. How do I sign up for electronic publications by the White House?

The White House Communications office is distributing press releases over an experimental system developed during the campaign at the MIT Artificial Intelligence Laboratory.

You can obtain copies of all the press releases from a wide variety of on-line services or discussion groups devoted to either national politics in general or President Clinton in particular. These are listed in sections I and II.

Section IC explains how you can sign up to receive press releases directly from the experimental MIT system by using an automated E-mail server. The present system was not designed to handle high levels of message traffic. A more powerful system will become available in due course, and in the meantime, it would be appreciated if you used this service sparingly. One appropriate current use is secondary redistribution and archiving. If you use it, you will be carried forward when the more powerful system replaces it.

A. Widely available sources

- ① On USENET/NETNEWS, electronic publications are found on a variety of groups:
 - ☐ Direct Distribution
 - alt.politics.clinton
 - alt.politics.org.misc

- alt.politics.reform
- alt.politics.usa.misc
- alt.news-media
- alt.activism
- talk.politics.misc

☐ Indirect Distribution

- misc.activism.progressive
- cmu.soc.politics
- assocs.clinton-gore-92

② On CompuServe: GO WHITEHOUSE

③ On America Online: keyword WHITEHOUSE or THE WHITEHOUSE or CLINTON

④ On The WELL: type whitehouse

⑤ On MCI: type VIEW WHITE HOUSE

⑥ On Fidonet: See Echomail WHITEHOUSE

⑦ On Peacenet or Econet: See pol.govinfo.usa

B. Notes on widely available sources listed above.

② CompuServe's White House Forum (GO WHITEHOUSE) is devoted to discussion of the Clinton administration's policies and activities. The forum's library consists of news releases and twice daily media briefings from the White House Office of Media Affairs. CompuServe members can exchange information and opinions with each other in the 17 sections in the forum's message area. The message board spans a broad range of topics, including international and United Nations activities, defense, health care, the economy and the deficit, housing and urban development, the environment, and education and national service.

③ On America Online the posts are sent to the White House Forum, located in the News & Finance department of the service and accessible via keywords "white house" and "clinton." The White House Forum on America Online contains the

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press releases from the White House, divided into the categories "Press Briefings," "Meetings & Speeches," "Foreign Policy," "The Economy," "Technology," "Health Care," and "Appointments." The area features a message board so you can discuss the releases with other AOL members, and a searchable database for easy retrieval of releases in the topic that interests you.

- ④ MCI Mail users can access daily information on the administration's programs provided by the White House through MCI Mail bulletin boards. The available boards are: WHITE HOUSE ECONOMIC, WHITE HOUSE FOREIGN, WHITE HOUSE SOCIAL, WHITE HOUSE SPEECHES and WHITE HOUSE NEWS. A listing of these boards can also be obtained by simply typing VIEW WHITE HOUSE at the COMMAND prompt.

C. Direct E-mail distribution

If you don't have access to these accounts or if you would prefer to receive the releases via E-mail, then the next section details how to sign up for this service. The server is not set up to answer E-mail letters, comments or requests for specific information. To reach this MIT server, send E-mail:

To: Clinton-Info@Campaign92.Org

Subject: Help

The server works by reading the subject line of the incoming message and taking whatever action that line calls for. If you want to sign up to automatically receive press releases, then your subject line would begin with the word RECEIVE. You can then specify what kind of information you are interested in receiving. The categories of information are:

- ☐ **Economic Policy** — Get releases related to the economy such as budget news, technology policy review, etc.
- ☐ **Foreign Policy** — Get releases related to foreign policy such as statements on Bosnian airdrop, Haitian refugee status, etc.
- ☐ **Social Policy** — Get releases related to social issues like National Service (Student Loan) program, abortion, welfare reform, etc.
- ☐ **Speeches** — All speeches made by the President and important speeches made by other Administration officials.
- ☐ **News** — Transcripts of press conferences released by the White House Communications office, as well as the President's remarks in photo ops and other Q&A sessions.
- ☐ **All** — All of the above

So, if you wanted to sign up to get releases related to the economy your E-mail message would look like this:

To: Clinton-Info@Campaign92.Org

Subject: RECEIVE ECONOMY

When you send a signup message to the clinton-info server, it sends you back a status message letting you know what distribution streams you are signed up for. If you ever want to check on what groups you are signed up for send the following message:

To: Clinton-Info@Campaign92.Org

Subject: STATUS

You can stop receiving E-mail releases by sending a REMOVE message to the clinton-info server. The word REMOVE would be followed by whatever distribution stream you wanted to drop. If you wanted to stop receiving message about the ECONOMY then your mail would look like this:

To: Clinton-Info@Campaign92.Org

Subject: REMOVE ECONOMY

You could substitute SOCIAL, FOREIGN, SPEECHES, NEWS or ALL for ECONOMY in the above message and you would be dropped from that distribution list. If you send the subject line REMOVE ALL, then you will be taken off the E-mail distribution system all together and will not receive further releases of any kind.

You can also ask for help from the automated server. Send an E-mail query as follows:

To: Clinton-Info@Campaign92.Org

Subject: HELP

The server will respond by sending you a detailed form that will guide you through the process of signing up for the various distribution streams. As you will quickly discover, there is an automatic form processing interface that parallels the quick and easy subject line commands discussed here. More detailed help is available by sending an E-mail query as follows:

To: Clinton-Info@Campaign92.Org

Subject: Please Help!

Finally, if you want to search and retrieve documents, but you do not have access to the retrieval methods discussed in Section II, you can do this via E-mail through the MIT server. You can obtain the WAIS query form by sending an E-mail query as follows:

To: Clinton-Info@Campaign92.Org

Subject: WAIS

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Once you have identified the documents that you want, be careful not to request them all at once, because you may be sent a message containing all the documents and this message may be too big for some mail delivery systems between the E-mail server and you.

II. How do I retrieve WHITE HOUSE publications from Internet archives?

Various sites are archiving the press releases distributed. What follows is an incomplete list of some of the sites containing the documents that have been released to date. This FAQ will be updated to reflect new sites as they become known.

Site	Directory
1. SUNSITE.UNC.EDU	/HOME3/WAIS/WHITE-HOUSE-PAPERS
2. FTP.CCO.CALTECH.EDU	/PUB/BJMCCALL
3. FTP.MARISTB.MARIST.EDU	
4. CPSR.ORG	/CPSR/CLINTON
5. FedWorld BBS	703-321-8020 8-N-1

Notes: The following are notes on how to log in and get information from the above sites.

1. Office for Information Technology at the University of North Carolina maintains the full collection of White House electronic releases available for search with WAIS and also accessible via Gopher.

1.a WAIS

```
(:source
:version 3
:database-name "/home3/wais/White-House-Papers" :ip-
address "152.2.22.81"
:ip-name "sunsite.unc.edu"
:tcp-port 210
:cost 0.00
:cost-unit :free
:maintainer "pjones@sunsite.unc.edu"
```

```
:description "Server created with WAIS release 8 b5 on Feb 27 15:16:16 1993
by pjones@sunsite.unc.edu. These are the White House Press Briefings and
other postings dealing with William Jefferson Clinton and Albert Gore as well
as members of the President's Cabinet and the first lady Hillary Rodham Clin-
ton, Chelsea, Socks and others in Washington DC. Dee Dee Meyers and
George Stephanopoulos. Other good words: United States of America, Bill,
Al, Tipper, Democrats, USA, US. These files are also available via anonymous
ftp from sunsite.unc.edu The files of type filename used in the index were:
/home3/ftp/pub/academic/political-science/whitehouse-papers/1993"
Folks without WAIS clients or gophers that act as WAIS clients may telnet to
sunsite.unc.edu and login as swais to access this information via WAIS.
```

- 1.b GOPHER is a distributed menuing system for information access on the Internet developed at the University of Minnesota. Gophers are client-server implementations and various gopher clients are available for nearly any computing platform. You may now use gopher clients to assess the White House Papers and other political information on SunSITE.unc.edu's new gopher server. You may also add links from your local gopher server to SunSITE for access to the White House Papers.

For gopher server keepers and adventurous clients to access SunSITE you need only know that we use the standard gopher port 70 and that our Internet address is SunSITE.unc.edu (152.2.22.81). Point there and you'll see the references to the Politics areas. For folks without gopher clients but with access to telnet: telnet sunsite.unc.edu login: gopher The rest is very straightforward. Browsing options end with a directory mark (/), searching options end with a question mark (?). There's plenty of on-line help available.

2. No special instructions.

3. The CLINTON@MARIST log files which contain all the official administration releases distributed through the MIT servers are available via anonymous FTP. These logs contain in addition to the official releases, the posts that comprise the ongoing discussion conducted by the list subscribers.

To obtain the logs: FTP MARISTB.MARIST.EDU - the logs are in the CLINTON directory and are named CLINTON LOG9208 thru CLINTON LOGyymm where yymm stands for the current year and month. Problems should be directed to my attention: URLS@MARISTC.BITNET or URLS@VM.MARIST.EDU. Posted by Lee Sakkas - owner, CLINTON@MARIST

4. Computer Professionals for Social Responsibility is providing all Clinton documents on technology and privacy at the CPSR Internet Library, available via FTP/WAIS/Gopher at cpsr.org/cpsr/clinton (and in other folders as relevant). For E-mail access, send a message with the word **help** at the first line of text to listserv@cpsr.org.
5. The FedWorld Computer System, operated by the National Technical Information Service, archives White House papers in a traditional BBS type file library. Connect to

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FedWorld by calling (703) 321- 8020. No parity, eight data bits and one stop bit (N-8-1). FedWorld accommodates baud speeds of up to 9,600. White House papers are located in the W-House library of files. To access this library from the main FedWorld menu, enter <f s w-house>. Files are named with the first four digits being the release month and day (e.g. 0323XXX.txt). Some standard abbreviations after the date include:

- rem — Remarks by the President
- pc — Press Conference transcript
- pr — Press Release
- AM — AM Press Briefing
- PM — PM Press Briefing
- sch — The President's public schedule
- spch — Text of major speeches

These files are saved in ASCII format. Files can be viewed on-line by requesting to download a file and then selecting (L)ist as the download protocol. This will display the file a screen at a time. White House papers are kept in the above format for up to two months. Papers more than two months old are compressed using Pkzip into a single file that contains all of the files for that month (e.g., 0193.zip contains all papers released during January 1993). In addition to White House Documents, FedWorld also provides a gateway to more than 100 government funded BBSs and computer systems.

III. How do I send E-mail to the White House?

The White House E-mail system is under construction. This is a new project and suffers from all of the problems common to a startup operation. The Communications office is currently working on defining what this system will do, as well as trying to come up with equipment and staffing to make sure that it works. E-mail messages are currently being printed out and responses are being sent out via U.S. Mail.

Nobody wants this new venture to work more than the staff that has devoted so many hours to getting it up and running. But much time and effort will be required before the system is truly interactive. In the meantime, they will need a little patience from the electronic community. If you send a message to the White House, please include a U.S. Post office address for replies.

You can send E-mail to the following accounts:

CompuServe:	75300,3115 GO: WHITE HOUSE	finds White House forum
America OnLine:	clinton pz KEYWORD: WHITEHOUSE	finds White House area
MCI	TO: WHITE HOUSE VIEW WHITE HOUSE	views bulletin boards
Fidonet	TO: WHITEHOUSE@1:2613/333 Echomail: WHITEHOUSE	views echomail conference
Internet:	Clinton-HQ@Campaign92.Org 75300.3115@CompuServe.Com clintonpz@AOL.Com ■	

Late Breaking White House E-Mail News

By Claudia Lynch, *Benchmarks* Editor
(as04@unt.edu)

The White House Office of Presidential Correspondence issued a letter from President Clinton on June 1 announcing E-Mail access to the White House via the Internet (rather than through a commercial service, although those addresses will stay in place). In reference to response from the White House, the letter reads:

Initially, your E-mail message will be read and receipt immediately acknowledged. A careful count will be taken on the number received as well as the subject of each message. However, the White House is not yet capable of sending back a tailored response via electronic mail. We are hoping this will happen by the end of the year.

A number of response-based programs which allow technology to help us read your message more effectively, and, eventually respond to you electronically in a timely fashion will be tried out as well. These programs will change periodically as we experiment with the best way to handle electronic mail from the public. Since this has never been tried before, it is important to allow for some flexibility in the system in these first stages. We welcome your suggestions.

The new Internet addresses of President Clinton and Vice-President Gore are:

- president@whitehouse.gov
- vice.president@whitehouse.gov

The House of Representatives' new on-line information service can be reached at: congress@hr.house.gov ■



Virus Update

Compiled by Claudia Lynch,
Benchmarks Editor (as04@unt.edu)

The following information, except when noted, comes from the VIRUS-L Digest.

General

- A FAQ (Frequently Asked Questions) document and all of the back issues of *VIRUS-L Digest* are available via Anonymous FTP on cert.org (192.88.209.5).
- Reviews of various books about virus-related issues are available via Anonymous FTP on cert.org (192.88.209.5) in the path: pub/virus-l/docs/reviews/books
- *EDUPAGE* (5/20/93), "a summary of some of the week's news items on information technology, provided as a service by EDUCOM," reports that Microsoft is offering jobs to software pirates who "straighten up." Microsoft has recruited 250 dealers and 131 distributors in Russia (which has an estimated 1.5 million computers), and offers sales incentives like hardware and software to top performers.
- Dr. Popp, the perpetrator of the AIDS diskette scam was convicted of extortion recently in Rome, Italy. He was sentenced to two-and-a-half years in prison for attempted extortion, but did not show up for the trial or sentencing. He is rumored to be living in *Lake Jackson, Texas*. It is reported that an international warrant will be filed soon with Interpol by the Italian Police. There are approximately fifty more cases against Popp in various Italian courts.

Just When You Thought It Was Safe...

By Eriq Neale, ACS General Access Lab Manager (neale@unt.edu)

Since you're using F-Prot to scan all your diskettes for viral infections and VIRSTOP to prevent infected programs from running on your PC, you don't have to worry about viruses any more. Right? Wrong. This true story happened on campus very recently (names have been changed to protect the innocent).

Jeff's Story

An associate of mine, who has been religious in keeping up-to-date with the latest versions of F-Prot, recently had his computer infected with the FORM virus. FORM is a boot sector virus, meaning that it can only be transferred to a computer by booting off an infected floppy. My associate has been careful to avoid doing this. A few weeks ago, a friend of his (or hers) brought a disk with a few files that my associate (let's call him Jeff) wanted to see. Jeff put the disk in the computer, but then had to do something outside of his office for a while. He returned to his office only to shut down his computer and leave for the day.

The next day, Jeff came back to his office and turned on his computer, momentarily forgetting that the disk his friend had loaned him was still in the boot drive. He heard the computer attempt to boot from the disk, realized it shouldn't have been in there, and removed the disk, but it was too late. The disk, which was infected with the FORM virus, had infected his computer. From that point on, VIRSTOP prevented his computer from booting because it recognized that the hard disk was infected.

F-Prot to the Rescue

Fortunately, Jeff and I were able to get rid of the FORM virus from his computer by booting from a clean, write-protected floppy disk that had a copy of F-Prot on it. We ran F-Prot once we booted the computer and cleaned the disk without difficulty. In a matter of a few hours, the time it took Jeff to track me down, he was back in business.

Let us take Jeff's story to heart and appreciate the wisdom of it. Years of careful practice cannot prevent the consequences of one careless act. It just goes to show that one little slip can ruin your whole day. ■

Just for Fun: Basic Computer Viruses (posted to HELP-NET)

- **Federal Bureaucrat Virus:** Divides your hard disk into hundreds of little units, each of which do practically nothing, but all of which claim to be the most important part of the computer.
- **Star Trek Virus:** Invades your system in places where no virus has gone before.

IBM and Compatible PCs

- Independent reviews of PC antiviral products are available via Anonymous FTP on cert.org (192.88.209.5) in the directory pub/virus-l/docs/reviews. ■

Computing Center Short Course Registration Form

Please complete this form and return it AS SOON AS POSSIBLE if you wish to attend any of the short courses listed below. You may also register over the phone by calling (817) 565-2324. **FACULTY AND STUDENTS HAVE FIRST PRIORITY TO REGISTER FOR THESE CLASSES. A VALID USER-ID IS REQUIRED FOR CLASSES MARKED WITH AN ASTERISK (*).** Academic Computing Services reserves the right to cancel ANY course that has 5 people or less registered 3 days before the date of the course.

NAME: _____ FACULTY ___ STAFF ___ STUDENT ___
DEPT: _____ UNDERGRADUATE ___ GRADUATE ___
PHONE: _____ MAILING ADDRESS: _____
SSN: _____ USER-ID: _____
Staff: SUPERVISOR SIGNATURE: _____

I wish to attend:

- **Intro. to Pegasus Mail (ISB 110):**
___ Thursday, July 1: 2-5 p.m.
___ Thursday, July 15: 2-5 p.m.
- **Intro. to SAS on CMS (ISB 110)*:**
___ Thursday, June 24: 3-4 p.m.
- **Intro. to IBM JCL (ISB 134B):**
___ Wednesday, June 16: 3-5 p.m.
- **Intro. to SPSS (ISB 110)*:**
___ Wednesday, June 23: 1-4 p.m.
- **Intro. to Electronic Mail & Discussion Groups on CMS (ISB 134B):**
___ Wednesday, June 30: 3-5 p.m.
- **Intro. to Internet Tools (ISB 134B):**
___ Wednesday, July 21: 3:30-5 p.m.
- **Intro. to UNIX (Chilton 255)*:**
___ Thursday, June 17: 3-5 p.m.
- **Intro. to SAS on UNIX (ISB 110)*:**
___ Tuesday, June 29: 4-5 p.m.
- **Intro. to Macintosh (ISB 110):**
___ Thursday, June 10: 3-5 p.m.
- **Intro. to CMS (ISB 110)*:**
___ Monday, June 14: 3-5 p.m.
___ Monday, July 19: 3-5 p.m.
- **Intro. to SAS (ISB 110)*:**
___ Tuesday, June 22: 2-4 p.m.
- **Intro. to VAX/VMS (Chilton 255)*:**
___ Wednesday, June 16: 3-5 p.m.
- **Intro. to SPSS PC +(ISB 110):**
___ Monday, June 28: 2-5 p.m.
- **Intro. to Electronic Mail & Discussion Groups on VMS (ISB 134B):**
___ Wednesday, July 14: 3-5 p.m.
- **Intro. to Procomm +(Chilton 255):**
___ Wednesday, June 23: 2-3 p.m.
- **Intro. to vi (Chilton 255)*:**
___ Monday, June 21: 3-5 p.m.
- **Intro. to DOS (Chilton 255):**
___ Wednesday, June 9: 3-5 p.m.
- **Intro. to WP 5.1 (ISB 110):**
___ Thursday, June 17: 9 a.m.-Noon

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